

Application of SAN DIEGO GAS & ELECTRIC)	
COMPANY for authority to update its gas and electric)	A-10-12-005
revenue requirement and base rates)	
<u>effective January 1, 2012 (U 902-M)</u>)	
Application of SOUTHERN CALIFORNIA GAS)	
COMPANY for authority to update its gas revenue)	A-10-12-006
requirement and base rates)	
<u>effective January 1, 2012 (U 904-G)</u>)	

Exhibit No.: (SCG-05-WP-R)

REVISED WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF RAYMOND K. STANFORD
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

JULY 2011



**2012 General Rate Case - REVISED
INDEX OF WORKPAPERS**

Exhibit SCG-05-WP-R - ENGINEERING

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Overall Summary For Exhibit No. SCG-05-WP-R

Area: ENGINEERING

Witness: Stanford, Raymond K

Description	In 2009 \$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
<i>Non-Shared Services</i>	28,027	49,148	58,023	78,399
<i>Shared Services</i>	12,377	15,583	15,608	16,053
Total	40,404	64,731	73,631	94,452

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K

Summary of Non-Shared Services Workpapers:

Description	In 2009 \$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
A. Gas Engineering	10,189	14,796	15,589	21,383
B. Pipeline Integrity - Transmission (Subpart O)	10,961	19,762	16,878	24,760
C. Pipeline Integrity - Distribution (Subpart P)	6,570	14,177	24,465	31,097
D. Public Awareness	307	413	1,091	1,159
Total	28,027	49,148	58,023	78,399

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Workpaper: 2EN000.000

Summary for Category: A. Gas Engineering

	In 2009\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
Labor	7,277	7,384	7,989	8,191
Non-Labor	2,912	7,412	7,600	13,192
NSE	0	0	0	0
Total	10,189	14,796	15,589	21,383
FTE	95.4	94.1	100.9	102.9

**Workpapers belonging to this Category:
 2EN000.000 Gas Engineering**

Labor	7,277	7,384	7,989	8,191
Non-Labor	2,912	7,412	7,600	13,192
NSE	0	0	0	0
Total	10,189	14,796	15,589	21,383
FTE	95.4	94.1	100.9	102.9

Beginning of Workpaper
2EN000.000 - Gas Engineering

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

Activity Description:

The Gas Engineering work group is a consolidation of the associated activities which provide engineering and supervision support to the distribution, transmission and storage operations organizations of SoCalGas. Support activities include system analysis, project management, engineering design, measurement maintenance, corrosion assessment, automation, compressor maintenance and related emission testing. This group also captures the shift in responsibilities associated with changes in GIS technology.

Forecast Methodology:

Labor - 5-YR Average

As the foundation for future labor expense requirements, the 5 year average was chosen. The nature of work performed by the Gas Engineering department, primarily Operations and Engineering Support for Transmission, Storage and Distribution, has proven to be the best indicator of work. This forecasting methodology serves to more accurately even out the work variations that occur. However, new and enhanced regulations are emerging and thus requiring additional staffing and resources to comply. These incremental costs have been identified and added to the 5 year average.

Non-Labor - 5-YR Average

As the foundation for future non labor expense requirements, the 5 year average was chosen. The nature of work performed by the Gas Engineering department, primarily Operations and Engineering Support for Transmission, Storage and Distribution, has proven to be relatively stable over time. The 5 year average best represents the work group's funding requirements. However, new and enhanced regulations are emerging and thus requiring additional staffing and resources to comply. These incremental costs have been identified and added to the 5 year.

NSE - 5-YR Average

There are no Non Standard escalation expenses in this work group.

Summary of Results:

	In 2009\$ (000)							
	Adjusted-Recorded					Adjusted-Forecast		
	2005	2006	2007	2008	2009	2010	2011	2012
Years								
Labor	8,039	8,100	8,326	7,701	7,277	7,384	7,989	8,191
Non-Labor	2,075	2,618	2,305	2,737	2,912	7,412	7,600	13,192
NSE	0	0	0	0	0	0	0	0
Total	10,114	10,718	10,631	10,438	10,189	14,796	15,589	21,383
FTE	103.6	105.9	109.0	100.1	95.4	94.1	100.9	102.9

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

Forecast Summary:

Forecast Method		In 2009 \$(000)								
		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		2010	2011	2012	2010	2011	2012	2010	2011	2012
Labor	5-YR Average	7,888	7,888	7,888	-504	101	303	7,384	7,989	8,191
Non-Labor	5-YR Average	2,529	2,529	2,529	4,883	5,071	10,663	7,412	7,600	13,192
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		10,417	10,417	10,417	4,379	5,172	10,966	14,796	15,589	21,383
FTE	5-YR Average	102.8	102.8	102.8	-8.7	-1.9	0.1	94.1	100.9	102.9

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	100	0	0	100	0.0	1-Sided Adj

A shift in work attributable to the implementation of new technology resulting in the need for new skills and responsibilities and the support of increasingly complex suite of business support systems and the increase in number of mobile data terminals throughout the system drives the need for the following additional positions: Additional Labor resource (\$100k) to support incremental Mobile Data Terminal hardware and software installation associated with Supervisor Enablement project. 2200-0305

2010	0	90	0	90	0.0	1-Sided Adj
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Purchase and implement upgrade for Microstation. The vendor no longer supports our current version of Microstation, version "J". Must upgrade to version 8. Costs for this upgrade will span a three year period, and include dollars in 2010 (\$90,000), 2011 (\$187,000) and 2012 (\$187,000) to develop project plans, build interfaces, migrate the existing files, implement enhancements, train end users, and decommission the legacy system

2010	0	162	0	162	0.0	1-Sided Adj
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Non Labor expense associated with compliance to new environmental and air quality regulations; materials testing and technician certifications. Includes additional stationary engine source testing (\$120K); GHG gas monitoring at stations and M&R facilities for combustion and fugitives(\$15K); additional compliance testing requirements drive an increased in frequency of engine analysis and condition monitoring(\$15); Increased frequency and quality of materials testing due to integrity management data requirements(\$12K)

2010	0	0	0	0	1.0	1-Sided Adj
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1.0 FTE to support the Non Labor activities associated with compliance to new environmental and air quality regulations; materials testing and technician certifications. Includes additional stationary engine source testing (\$120K); GHG gas monitoring at stations and M&R facilities for combustion and fugitives(\$15K); additional compliance testing requirements drive an increased in frequency of engine analysis and condition monitoring(\$15); Increased frequency and quality of materials testing due to integrity management data requirements(\$12K)

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2010	175	0	0	175	0.0	1-Sided Adj

A shift in work attributable to the implementation of new technology resulting in the need for new skills and responsibilities and the support of increasingly complex suite of business support systems and the increase in number of mobile data terminals throughout the system drives the need for the following additional positions: Additional Labor resource, (1.75 FTE x \$100k = \$175k), to support incremental Mobile Data Terminal hardware and software installation associated with the Mobile project. 2200-0305

2010	0	0	0	0	1.8	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource 1.75 FTE to support incremental Mobile Data Terminal hardware and software installation associated with the Mobile project. 2200-0305

2010	-40	0	0	-40	0.0	1-Sided Adj
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Transfer \$40,000 labor from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning, shared service.

2010	0	-4	0	-4	0.0	1-Sided Adj
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Transfer \$4,000 non-labor from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning, shared service.

2010	0	0	0	0	-0.5	1-Sided Adj
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Transfer of personel from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning, shared service.

2010	28	0	0	28	0.0	1-Sided Adj
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Additional funding to complete the full year effect of Business Analyst position filled in May '09 \$85K/12= \$7K x 4 months= \$28K, plus non labor & additional training expenses. (June - Dec costs (8 mos x \$7k= \$56k) already included in historical 2009 data and therefore in forecast. The remaining 4 months are incremental. (2200-0305)

2010	0	7	0	7	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Non labor & additional training expenses for Business Analyst position filled in 2009. (2200-0305)

2010	0	30	0	30	0.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for non labor and training expense associated with Supervisor Enablement & Mobile support 2.75 FTE's; \$6K misc NL and \$5K training per FTE. (2.75 FTE x \$11k = \$30.25k) 2200-0305

2010	40	0	0	40	0.0	1-Sided Adj
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A shift in work attributable to the implementation of new technology resulting in the need for new skills and responsibilities and the support of increasingly complex suite of business support systems and the increase in number of mobile data terminals throughout the system drives the need for the following additional positions: Business Analyst new hire in July '10 \$40K (SAP Prod Support), plus misc. non labor & additional training expenses Full year effect of Business Analyst filled in July '10 \$80K/12=\$6.7K x 6 mos.= \$40K, plus \$6K misc NL and \$5K training per FTE. 2200-0305

2010	0	6	0	6	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in July '10 (SAP Prod Support), plus 1/2 year of misc. non labor & additional training expenses. \$3K misc NL and \$2.5K training per FTE. 2200-0305

2010	0	0	0	0	0.5	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in July '10 (0.5 FTE for 2010) (SAP Prod Support), 2200-0305

2010	0	40	0	40	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Training existing workforce for new application support functions (Click FSD/ SAP Prod Support, etc.); \$5K x 8 FTE's= \$40K. 2200-0305

2010	-451	0	0	-451	0.0	1-Sided Adj
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Transfer 8 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.

2010	0	0	0	0	-8.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Transfer 8 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.						
2010	-364	0	0	-364	0.0	1-Sided Adj
Transfer 5 FTE's from from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.						
2010	0	0	0	0	-5.0	1-Sided Adj
Transfer 5 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.						
2010	0	0	0	0	0.5	1-Sided Adj
Additional 1/2 FTE to complete the full year effect of Business Analyst position filled in May '09 June - Dec fte partial already included in historical 2009 data and therefore in forecast. The remaining 6 months are incremental. (2200-0305)						
2010	0	0	0	0	1.0	1-Sided Adj
In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional management labor resource 1 FTE to support Supervisor Enablement initiative. Hardware and software installation associated with project. 2200-0305						
2010	0	10	0	10	0.0	1-Sided Adj
Contract with service provider to locate and sample transformers in the field, travel expenses. For satisfying questions asked by EPA in their Rulemaking. (PCB Advance Notice of Proposed Rulemaking (ANPRM) (40 CFR 761, Polychlorinated Biphenyls (PCBs); Reassessment of Use Authorizations, April 7, 2010).						
2010	8	0	0	8	0.0	1-Sided Adj
Data Collection and analysis required for satisfying questions asked by EPA in their Rulemaking, inventorying transformers and sampling to establish PCB status, uploading inventory and PCB status in GIS system, and/or for advocacy efforts for mitigating additional burdens from PCB Mega Rule amendments. (\$80,000 x 10% = \$8,000). (PCB Advance Notice of Proposed Rulemaking (ANPRM) (40 CFR 761, Polychlorinated Biphenyls (PCBs); Reassessment of Use Authorizations, April 7, 2010).						

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2010	0	4,542	0	4,542	0.0	1-Sided Adj

Environmental Greenhouse Gas Emission Fees (State of California). AB32 provides the California Air Resources Board (CARB) the ability to adopt a schedule of administrative fees to pay for its program. The fee for LDC natural gas throughput has been proposed by CARB at \$0.00084/therm. SCG's 2008 throughput from the 2009 Cal Gas Report (minus allowed exclusions) is approximately 5.41 billion therms.

2010 Total	-504	4,883	0	4,379	-8.7	
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2011	0	162	0	162	0.0	1-Sided Adj
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Non Labor expense associated with compliance to new environmental and air quality regulations; materials testing and technician certifications. Includes additional stationary engine source testing (\$120K); GHG gas monitoring at stations and M&R facilities for combustion and fugitives(\$15K); additional compliance testing requirements drive an increased in frequency of engine analysis and condition monitoring(\$15); Increased frequency and quality of materials testing due to integrity management data requirements(\$12K)

2011	0	0	0	0	1.0	1-Sided Adj
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1.0 FTE to support the Non Labor activities associated with compliance to new environmental and air quality regulations; materials testing and technician certifications. Includes additional stationary engine source testing (\$120K); GHG gas monitoring at stations and M&R facilities for combustion and fugitives(\$15K); additional compliance testing requirements drive an increased in frequency of engine analysis and condition monitoring(\$15); Increased frequency and quality of materials testing due to integrity management data requirements(\$12K)

2011	-40	0	0	-40	0.0	1-Sided Adj
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Transfer \$40,000 labor from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning, shared service.

2011	0	-4	0	-4	0.0	1-Sided Adj
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Transfer \$4,000 non-labor from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning, shared service.

2011	0	0	0	0	-0.5	1-Sided Adj
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Transfer of personel from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning, shared service.

2011	28	0	0	28	0.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional funding to complete the full year effect of Business Analyst position filled in May '09 \$85K/12= \$7K x 4 months= \$28K, plus non labor & additional training expenses. (June - Dec costs (8 mos x \$7k= \$56k) already included in historical 2009 data and therefore in forecast. The remaining 4 months are incremental. (2200-0305)</p>						
2011	0	7	0	7	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Non labor & additional training expenses for Business Analyst position filled in 2009. (2200-0305)</p>						
2011	100	0	0	100	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource (\$100k) to support incremental Mobile Data Terminal hardware and software installation associated with Supervisor Enablement project. 2200-0305</p>						
2011	175	0	0	175	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource, (1.75 FTE x \$100k = \$175k), to support incremental Mobile Data Terminal hardware and software installation associated with the Mobile project. 2200-0305</p>						
2011	0	0	0	0	1.8	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource 1.75 FTE to support incremental Mobile Data Terminal hardware and software installation associated with the Mobile project. 2200-0305</p>						
2011	25	0	0	25	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource (0.25 FTE x \$100k = \$25k) to support incremental Mobile Data Terminal hardware and software installation associated with the Mobile project. Position hired partway through 2010, this funding to provide full-year effect for position. 2200-0305</p>						

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	0	0	0	0	0.3	1-Sided Adj

In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource 0.25 FTE to support incremental Mobile Data Terminal hardware and software installation associated with the Mobile project. Position hired partway through 2010, this funding to provide full-year effect for position. 2200-0305

2011	0	33	0	33	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for non labor and training expense associated with Supervisor Enablement & Mobile support 3 FTE's; \$6K misc NL and \$5K training per FTE. (3 FTE x \$11k = \$33k) 2200-0305

2011	80	0	0	80	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst hired in July '10 (SAP Prod Support), plus misc. non labor & additional training expenses. Full year effect of Business Analyst filled in July '10 \$80K ,plus \$6K misc NL and \$5K training per FTE.

2011	0	11	0	11	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst hired in July '10 (SAP Prod Support), plus misc. non labor & additional training expenses. Full year effect of Business Analyst filled in July '10 \$80K ,plus \$6K misc NL and \$5K training per FTE. 2200-0305

2011	0	0	0	0	1.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst hired in July '10 (SAP Prod Support). 2200-0305

2011	0	11	0	11	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst hired in July '10 (SAP Prod Support), \$6K misc NL and \$5K training per FTE. 2200-0305

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	100	0	0	100	0.0	1-Sided Adj

In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Project Manager new hire in Jan 2011 \$100K (Click FSD Prod Support), plus \$6K misc. non labor and \$5K training per FTE. 2200-0305

2011	0	0	0	0	1.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Project Manager new hire in Jan 2011 (Click FSD Prod Support). 2200-0305

2011	0	11	0	11	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Project Manager new hire in Jan 2011 (Click FSD Prod Support) \$6K misc. non labor and \$5K training . 2200-0305

2011	0	11	0	11	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 (Click FSD Prod Support) \$6K misc. non labor and \$5K training . 2200-0305

2011	0	11	0	11	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Team Lead new hire in Jan 2011 (Click FSD/ SAP Prod Support) \$6K misc. non labor and \$5K training . 2200-0305

2011	80	0	0	80	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 at \$80K (SAP Prod Support) plus \$6K misc. non labor and \$5K training per FTE. 2200-0305

2011	0	0	0	0	1.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 (SAP Prod Support) 1 FTE. 2200-0305</p>						
2011	0	0	0	0	1.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 (Click FSD Prod Support) 1 FTE. 2200-0305</p>						
2011	0	0	0	0	1.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Team Lead new hire in Jan 2011 (Click FSD/ SAP Prod Support) 1 FTE. 2200-0305</p>						
2011	100	0	0	100	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Team Lead new hire in Jan 2011 \$100K (Click FSD/SAP Prod Support), plus \$6K misc. non labor and \$5K training per FTE. 2200-0305</p>						
2011	80	0	0	80	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 \$80K (Click FSD Prod Support), plus \$6K misc. non labor and \$5K training per FTE. 2200-0305</p>						
2011	0	40	0	40	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Training existing workforce for new application support functions (Click FSD/ SAP Prod Support, etc.); \$5K x 8 FTE's= \$40K. 2200-0305</p>						
2011	0	0	0	0	-8.0	1-Sided Adj
<p>Transfer 8 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.</p>						

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	-451	0	0	-451	0.0	1-Sided Adj

Transfer 8 FTE's from from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.

2011	0	17	0	17	0.0	1-Sided Adj
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Incremental maintenance expense in support of AutoSol Software. Maintenance begins for 800 licenses in 2011.

2011	-364	0	0	-364	0.0	1-Sided Adj
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Transfer 5 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.

2011	180	0	0	180	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Incremental Business Analyst (1) at \$80K, Project Mgr (1) at \$100K for GIS Prod Support; plus \$6K misc. non labor & \$5K training per FTE

2011	0	22	0	22	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Incremental Business Analyst (1) and Project Mgr (1) for GIS Prod Support; plus \$6K misc. non labor mileage and expenses & \$5K training per FTE.

2011	0	0	0	0	2.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Incremental Business Analyst (1) and Project Mgr (1) for GIS Prod Support;

2011	0	0	0	0	-5.0	1-Sided Adj
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Transfer 5 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	0	0	0	0	0.5	1-Sided Adj

In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional 1/2 FTE to complete the full year effect of Business Analyst position filled in May '09 June - Dec fe partial already included in historical 2009 data and therefore in forecast. The remaining 6 months are incremental. (2200-0305)

2011	0	0	0	0	1.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional management labor resource 1 FTE to support Supervisor Enablement initiative. Hardware and software installation associated with project. 2200-0305

2011	0	187	0	187	0.0	1-Sided Adj
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Purchase and implement upgrade for Microstation. The vendor no longer supports our current version of Microstation, version "J". Must upgrade to version 8. Costs for this upgrade will span a three year period, and include dollars in 2010 (\$90,000), 2011 (\$187,000) and 2012 (\$187,000) to develop project plans, build interfaces, migrate the existing files, implement enhancements, train end users, and decommission the legacy system

2011	0	10	0	10	0.0	1-Sided Adj
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Contract with service provider to locate and sample transformers in the field, travel expenses. For satisfying questions asked by EPA in their Rulemaking. (PCB Advance Notice of Proposed Rulemaking (ANPRM) (40 CFR 761, Polychlorinated Biphenyls (PCBs); Reassessment of Use Authorizations

2011	8	0	0	8	0.0	1-Sided Adj
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Data Collection and analysis required for satisfying questions asked by EPA in their Rulemaking, inventorying transformers and sampling to establish PCB status, uploading inventory and PCB status in GIS system, and/or for advocacy efforts for mitigating additional burdens from PCB Mega Rule amendments. (\$80,000 x 10% = \$8,000). (PCB Advance Notice of Proposed Rulemaking (ANPRM) (40 CFR 761, Polychlorinated Biphenyls (PCBs); Reassessment of Use Authorizations, April 7, 2010).

2011	0	4,542	0	4,542	0.0	1-Sided Adj
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Environmental Greenhouse Gas Emission Fees (State of California). AB32 provides the California Air Resources Board (CARB) the ability to adopt a schedule of administrative fees to pay for its program. The fee for LDC natural gas throughput has been proposed by CARB at \$0.00084/therm. SCG's 2008 throughput from the 2009 Cal Gas Report (minus allowed exclusions) is approximately 5.41 billion therms.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
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Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2012	0	0	0	0	-0.5	1-Sided Adj

Transfer of personel from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning, shared service.

2012	28	0	0	28	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional funding to complete the full year effect of Business Analyst position filled in May '09 $\$85K/12 = \$7K \times 4 \text{ months} = \$28K$, plus non labor & additional training expenses. (June - Dec costs (8 mos x \$7k= \$56k) already included in historical 2009 data and therefore in forecast. The remaining 4 months are incremental. (2200-0305)

2012	0	7	0	7	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Non labor & additional training expenses for Business Analyst position filled in 2009. (2200-0305)

2012	100	0	0	100	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource (\$100k) to support incremental Mobile Data Terminal hardware and software installation associated with Supervisor Enablement project. 2200-0305

2012	175	0	0	175	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource, (1.75 FTE x \$100k = \$175k), to support incremental Mobile Data Terminal hardware and software installation associated with the Mobile project. 2200-0305

2012	0	0	0	0	1.8	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource 1.75 FTE to support incremental Mobile Data Terminal hardware and software installation associated with the Mobile project. 2200-0305

2012	25	0	0	25	0.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource (0.25 FTE x \$100k = \$25k) to support incremental Mobile Data Terminal hardware and software installation associated with the Mobile project. Position hired partway through 2010, this funding to provide full-year effect for position. 2200-0305</p>						
2012	0	0	0	0	0.3	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Additional Labor resource 0.25 FTE to support incremental Mobile Data Terminal hardware and software installation associated with the Mobile project. Position hired partway through 2010, this funding to provide full-year effect for position. 2200-0305</p>						
2012	0	33	0	33	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for non labor and training expense associated with Supervisor Enablement & Mobile support 3 FTE's; \$6K misc NL and \$5K training per FTE. (3 FTE x \$11k = \$33k) 2200-0305</p>						
2012	0	0	0	0	1.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst hired in July '10 (SAP Prod Support). 2200-0305</p>						
2012	80	0	0	80	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst hired in July '10 (SAP Prod Support), plus misc. non labor & additional training expenses. Full year effect of Business Analyst filled in July '10 \$80K ,plus \$6K misc NL and \$5K training per FTE. 2200-0305</p>						
2012	0	11	0	11	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst hired in July '10 (SAP Prod Support), \$6K misc NL and \$5K training per FTE. 2200-0305</p>						

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2012	100	0	0	100	0.0	1-Sided Adj

In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Project Manager new hire in Jan 2011 \$100K (Click FSD Prod Support), plus \$6K misc. non labor and \$5K training per FTE. 2200-0305

2012	0	11	0	11	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Project Manager new hire in Jan 2011 (Click FSD Prod Support) \$6K misc. non labor and \$5K training . 2200-0305

2012	0	11	0	11	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 (SAP Prod Support) \$6K misc. non labor and \$5K training . 2200-0305

2012	0	11	0	11	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 (Click FSD Prod Support) \$6K misc. non labor and \$5K training . 2200-0305

2012	0	11	0	11	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Team Lead new hire in Jan 2011 (Click FSD/ SAP Prod Support) \$6K misc. non labor and \$5K training . 2200-0305

2012	80	0	0	80	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 at \$80K (SAP Prod Support) plus \$6K misc. non labor and \$5K training per FTE. 2200-0305

2012	0	0	0	0	1.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
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 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 (SAP Prod Support) 1 FTE. 2200-0305</p>						
2012	0	0	0	0	1.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 (Click FSD Prod Support) 1 FTE. 2200-0305</p>						
2012	0	0	0	0	1.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Team Lead new hire in Jan 2011 (Click FSD/ SAP Prod Support) 1 FTE. 2200-0305</p>						
2012	100	0	0	100	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Team Lead new hire in Jan 2011 \$100K (Click FSD/SAP Prod Support), plus \$6K misc. non labor and \$5K training per FTE. 2200-0305</p>						
2012	80	0	0	80	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Business Analyst new hire in Jan 2011 \$80K (Click FSD Prod Support), plus \$6K misc. non labor and \$5K training per FTE. 2200-0305</p>						
2012	0	40	0	40	0.0	1-Sided Adj
<p>In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Training existing workforce for new application support functions (Click FSD/ SAP Prod Support, etc.); \$5K x 8 FTE's= \$40K. 2200-0305</p>						
2012	-451	0	0	-451	0.0	1-Sided Adj

Transfer 8 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.

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Area: ENGINEERING
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 Category: A. Gas Engineering
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 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2012	0	0	0	0	-8.0	1-Sided Adj

Transfer 8 FTE's from from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.

2012	0	25	0	25	0.0	1-Sided Adj
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Incremental maintenance expense in support of AutoSol Software. Maintenance for 800 licenses in 2011 (\$17k) and additional 400 in 2012 (\$8k).

2012	-364	0	0	-364	0.0	1-Sided Adj
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Transfer 5 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.

2012	0	22	0	22	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Incremental Business Analyst (2) for GIS Prod Support; \$6K misc. non labor mileage and expenses & \$5K training per FTE.

2012	160	0	0	160	0.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Incremental Business Analyst (2) at (\$80k each) for GIS Production Support;

2012	0	0	0	0	2.0	1-Sided Adj
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In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Incremental Business Analyst (2) for GIS Prod Support;

2012	0	0	0	0	-5.0	1-Sided Adj
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Transfer 5 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Transfer aligns resources with focus on pipeline integrity mapping and GIS activity work load. allows for better tracking and accounting of costs.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2012	0	0	0	0	0.5	1-Sided Adj

Additional 1/2 FTE to complete the full year effect of Business Analyst position filled in May '09 June - Dec fte partial already included in historical 2009 data and therefore in forecast. The remaining 6 months are incremental. (2200-0305)

2012	0	187	0	187	0.0	1-Sided Adj
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Purchase and implement upgrade for Microstation. The vendor no longer supports our current version of Microstation, version "J". Must upgrade to version 8. Costs for this upgrade will span a three year period, and include dollars in 2010 (\$90,000), 2011 (\$187,000) and 2012 (\$187,000) to develop project plans, build interfaces, migrate the existing files, implement enhancements, train end users, and decommission the legacy system

2012	0	10	0	10	0.0	1-Sided Adj
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Contract with service provider to locate and sample transformers in the field, travel expenses. For satisfying questions asked by EPA in their Rulemaking. (PCB Advance Notice of Proposed Rulemaking (ANPRM) (40 CFR 761, Polychlorinated Biphenyls (PCBs); Reassessment of Use Authorizations, April 7, 2010).

2012	8	0	0	8	0.0	1-Sided Adj
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Data Collection and analysis required for satisfying questions asked by EPA in their Rulemaking, inventorying transformers and sampling to establish PCB status, uploading inventory and PCB status in GIS system, and for advocacy efforts for mitigating additional burdens from PCB Mega Rule amendments. (\$80,000 x 10% = \$8,000). (PCB Advance Notice of Proposed Rulemaking (ANPRM) (40 CFR 761, Polychlorinated Biphenyls (PCBs); Reassessment of Use Authorizations, April 7, 2010).

2012	0	5,000	0	5,000	0.0	1-Sided Adj
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Environmental Green house Gas Emission Fees - AB32 Cap and Trade. Open market emission credit offset purchases for major emmitters within SCG service territory. Impacted facilities are Aliso Canyon, Honnor Rancho, Blythe, South Needles, Newberry Springs. Estimated cost of emmission credits are \$20/MetricTon (MT). Combined emissions for the 5 facilities in 2008 was approximately 250,000 MT.

2012	0	4,542	0	4,542	0.0	1-Sided Adj
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Environmental Greenhouse Gas Emission Fees (State of California). AB32 provides the California Air Resources Board (CARB) the ability to adopt a schedule of administrative fees to pay for its program. The fee for LDC natural gas throughput has been proposed by CARB at \$0.00084/therm. SCG's 2008 throughput from the 2009 Cal Gas Report (minus allowed exclusions) is approximately 5.41 billion therms.

2012	0	564	0	564	0.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Sustainable SoCal Program O&M project costs. Various equipment, maintenance, management costs associated with bioenergy installation.						
2012	42	0	0	42	0.0	1-Sided Adj
Sustainable SoCal Program O&M project costs. Labor expense associated with managing the various equipment, maintenance, and contract costs for bioenergy installation.						
2012	180	0	0	180	0.0	1-Sided Adj
In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Incremental Business Analyst (1) at \$80K, Project Mgr (1) at \$100K for GIS Prod Support; plus \$5K misc. non labor and \$5K training per FTE						
2012	0	20	0	20	0.0	1-Sided Adj
Incremental Business Analyst (1) at \$80K, Project Mgr (1) at \$100K for GIS Prod Support; plus \$5K misc. non labor and \$5K training per FTE						
2012	0	0	0	0	2.0	1-Sided Adj
In response to the deployment of new technology from the OPEX 20/20 initiatives, gas engineering must add skilled resources to support, maintain, and train personnel, from supervisors to front line employees. This request is for Incremental Business Analyst (1) at \$80K, Project Mgr (1) at \$100K for GIS Prod Support; plus \$5K misc. non labor and \$5K training per FTE						
2012 Total	303	10,663	0	10,966	0.1	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Non-Shared Service Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. Gas Engineering
Category-Sub: 1. Gas Engineering
Workpaper: 2EN000.000 - Gas Engineering

Determination of Adjusted-Recorded:

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	5,234	5,490	6,277	6,457	6,177
Non-Labor	1,848	2,257	1,999	2,744	2,912
NSE	0	0	0	0	0
Total	7,082	7,746	8,277	9,201	9,089
FTE	75.8	78.5	87.2	85.5	80.4
Adjustments (Nominal \$) **					
Labor	902	825	411	-159	-14
Non-Labor	0	160	200	0	0
NSE	0	0	0	0	0
Total	902	985	611	-159	-14
FTE	12.0	11.0	5.0	-1.9	-0.2
Recorded-Adjusted (Nominal \$)					
Labor	6,135	6,315	6,689	6,298	6,164
Non-Labor	1,848	2,417	2,199	2,744	2,912
NSE	0	0	0	0	0
Total	7,984	8,732	8,888	9,041	9,075
FTE	87.8	89.5	92.2	83.6	80.2
Vacation & Sick (Nominal \$)					
Labor	1,046	1,128	1,167	1,214	1,114
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,046	1,128	1,167	1,214	1,114
FTE	15.8	16.4	16.8	16.5	15.2
Escalation to 2009\$					
Labor	858	656	470	190	0
Non-Labor	227	201	106	-7	0
NSE	0	0	0	0	0
Total	1,085	857	575	183	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	8,039	8,100	8,326	7,701	7,277
Non-Labor	2,075	2,618	2,305	2,737	2,912
NSE	0	0	0	0	0
Total	10,114	10,717	10,631	10,438	10,189
FTE	103.6	105.9	109.0	100.1	95.4

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
Test Year 2012 GRC - REVISED
Non-Shared Service Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. Gas Engineering
Category-Sub: 1. Gas Engineering
Workpaper: 2EN000.000 - Gas Engineering

Summary of Adjustments to Recorded:

In Nominal \$ (000)					
Year	2005	2006	2007	2008	2009
Labor	902	825	411	-159	-14
Non-Labor	0	160	200	0	0
NSE	0	0	0	0	0
Total	902	985	611	-159	-14
FTE	12.0	11.0	5.0	-1.9	-0.2

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005	902	0	0	0.0	CCTR Transf	From 2200-0799.000	TPLGL20091112 165202897
Transfer expenditures for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2005	0	0	0	12.0	CCTR Transf	From 2200-0799.000	TPLGL20091112 165627730
Transfer FTEs for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2005 Total	902	0	0	12.0			
2006	825	0	0	0.0	CCTR Transf	From 2200-0799.000	TPLGL20091112 165824843
Transfer expenditures for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2006	0	160	0	0.0	CCTR Transf	From 2200-0799.000	TPLGL20091112 165854500
Transfer expenditures for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2006	0	0	0	11.0	CCTR Transf	From 2200-0799.000	TPLGL20091112 165934220
Transfer FTEs for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2006 Total	825	160	0	11.0			

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. Gas Engineering
 Category-Sub: 1. Gas Engineering
 Workpaper: 2EN000.000 - Gas Engineering

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2007	411	0	0	0.0	CCTR Transf	From 2200-0799.000	TPLGL20091112 170028097
Transfer expenditures for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2007	0	200	0	0.0	CCTR Transf	From 2200-0799.000	TPLGL20091112 170100737
Transfer expenditures for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2007	0	0	0	5.0	CCTR Transf	From 2200-0799.000	TPLGL20091112 170135220
Transfer FTEs for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2007 Total	411	200	0	5.0			
2008	-159	0	0	0.0	CCTR Transf	To 2200-0320.000	TP1RMC2009102 8160330190
Adjustment to correct error in timekeeping posting between cost center owners newly created NSS (2200-2300) and historical USS (2200-0320) cost centers.							
2008	0	0	0	-1.9	CCTR Transf	To 2200-0320.000	TP1RMC2009102 8160445753
Adjustment to correct error in timekeeping posting between cost center owners newly created NSS (2200-2300) and historical USS (2200-0320) cost centers.							
2008 Total	-159	0	0	-1.9			
2009	-14	0	0	0.0	CCTR Transf	To 2200-0320.000	TP1RMC2010042 7073659730
Adjustment to correct timekeeping posting between cost centers. Activities are Shared Service in nature and therefore transferred from NSS (2200-2300), to USS (2200-0320) cost centers.							
2009	0	0	0	-0.2	CCTR Transf	To 2200-0320.000	TP1RMC2010043 0082322173
Adjustment to correct timekeeping posting between cost centers. Activities are Shared Service in nature and therefore transferred from NSS (2200-2300), to USS (2200-0320) cost centers.							
2009 Total	-14	0	0	-0.2			

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity - Transmission (Subpart O)
 Workpaper: 2EN001.000

Summary for Category: B. Pipeline Integrity - Transmission (Subpart O)

	In 2009\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
Labor	1,884	1,453	2,048	2,367
Non-Labor	9,077	18,309	14,830	22,393
NSE	0	0	0	0
Total	10,961	19,762	16,878	24,760
FTE	22.2	16.7	23.0	26.8

Workpapers belonging to this Category:

2EN001.000 Transmission Pipeline Integrity

Labor	1,884	1,453	2,048	2,367
Non-Labor	9,077	18,309	14,830	22,393
NSE	0	0	0	0
Total	10,961	19,762	16,878	24,760
FTE	22.2	16.7	23.0	26.8

Beginning of Workpaper
2EN001.000 - Transmission Pipeline Integrity

Southern California Gas Company
Test Year 2012 GRC - REVISED
Non-Shared Service Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity - Transmission (Subpart O)
Category-Sub: 1. Transmission Pipeline Integrity
Workpaper: 2EN001.000 - Transmission Pipeline Integrity

Activity Description:

Primary activities focus on the development, management and support of the Pipeline Integrity Program and Integrity Management Plan. Support activities include data collection, analysis, management, and reporting; assessment planning; integrity assessments and project management; preventive and mitigative measure analysis; technical and engineering support in the areas of corrosion protection and treatment, metallurgy, pipeline materials specifications and standard operating procedures.

Forecast Methodology:

Labor - Zero-Based

The activities and operational support provided by this work group are project specific and as such are provided as a zero based forecasting methodology. In addition, the historical spending does not reflect the arduous nature of cased-main assessments or the increased work associated with re-assessments.

Non-Labor - Zero-Based

The activities and operational support provided by this work group are project specific and as such are provided as a zero based forecasting methodology.

NSE - Zero-Based

There are no Non-Standard Escalation expenses in this work group.

Summary of Results:

	In 2009\$ (000)								
	Adjusted-Recorded					Adjusted-Forecast			
	2005	2006	2007	2008	2009	2010	2011	2012	
Years									
Labor	422	913	1,085	1,825	1,884	1,453	2,048	2,367	
Non-Labor	2,600	7,449	9,313	7,332	9,077	18,309	14,830	22,393	
NSE	0	0	0	0	0	0	0	0	
Total	3,022	8,362	10,398	9,157	10,961	19,762	16,878	24,760	
FTE	4.4	10.9	11.9	21.7	22.2	16.7	23.0	26.8	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Non-Shared Service Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity - Transmission (Subpart O)
Category-Sub: 1. Transmission Pipeline Integrity
Workpaper: 2EN001.000 - Transmission Pipeline Integrity

Forecast Summary:

Forecast Method		In 2009 \$(000)								
		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		2010	2011	2012	2010	2011	2012	2010	2011	2012
Labor	Zero-Based	0	0	0	1,453	2,048	2,367	1,453	2,048	2,367
Non-Labor	Zero-Based	0	0	0	18,309	14,830	22,393	18,309	14,830	22,393
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	19,762	16,878	24,760	19,762	16,878	24,760
FTE	Zero-Based	0.0	0.0	0.0	16.7	23.0	26.8	16.7	23.0	26.8

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	1,453	0	0	1,453	0.0	1-Sided Adj

Labor expenses for Transmission Pipeline Integrity activities associated with inspection and assessments. See Supplemental workpaper 2EN001.000_supp1.pdf for activity details.

2010	0	0	0	0	16.7	1-Sided Adj
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Labor FTE requirements for Transmission Pipeline Integrity activities associated with inspection and assessments. See Supplemental workpaper 2EN001.000_supp1.pdf for activity details.

2010	0	18,309	0	18,309	0.0	1-Sided Adj
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Non-Labor expense requirements for Transmission Pipeline Integrity activities associated with inspection and assessments. See Supplemental workpaper 2EN001.000_supp1.pdf for activity details.

2010 Total	1,453	18,309	0	19,762	16.7	
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2011	2,048	0	0	2,048	0.0	1-Sided Adj
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Labor expenses for Transmission Pipeline Integrity activities associated with inspection and assessments. See Supplemental workpaper 2EN001.000_supp1.pdf for activity details.

2011	0	0	0	0	23.0	1-Sided Adj
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Labor FTE requirements for Transmission Pipeline Integrity activities associated with inspection and assessments. See Supplemental workpaper 2EN001.000_supp1.pdf for activity details.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity - Transmission (Subpart O)
 Category-Sub: 1. Transmission Pipeline Integrity
 Workpaper: 2EN001.000 - Transmission Pipeline Integrity

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	0	14,830	0	14,830	0.0	1-Sided Adj

Non-Labor expense requirements for Transmission Pipeline Integrity activities associated with inspection and assessments. See Supplemental workpaper 2EN001.000_supp1.pdf for activity details.

2011 Total	2,048	14,830	0	16,878	23.0	
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2012	2,367	0	0	2,367	0.0	1-Sided Adj
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Labor expenses for Transmission Pipeline Integrity activities associated with inspection and assessments. See Supplemental workpaper 2EN001.000_supp1.pdf for activity details.

2012	0	0	0	0	26.8	1-Sided Adj
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Labor FTE requirements for Transmission Pipeline Integrity activities associated with inspection and assessments. See Supplemental workpaper 2EN001.000_supp1.pdf for activity details.

2012	0	22,393	0	22,393	0.0	1-Sided Adj
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Non-Labor expense requirements for Transmission Pipeline Integrity activities associated with inspection and assessments. See Supplemental workpaper 2EN001.000_supp1.pdf for activity details.

2012 Total	2,367	22,393	0	24,760	26.8	
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Southern California Gas Company
Test Year 2012 GRC - REVISED
Non-Shared Service Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity - Transmission (Subpart O)
Category-Sub: 1. Transmission Pipeline Integrity
Workpaper: 2EN001.000 - Transmission Pipeline Integrity

Determination of Adjusted-Recorded:

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	322	712	872	1,493	1,596
Non-Labor	2,316	6,877	8,886	7,350	9,077
NSE	0	0	0	0	0
Total	2,638	7,588	9,757	8,843	10,673
FTE	3.7	9.2	10.1	18.1	18.7
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	322	712	872	1,493	1,596
Non-Labor	2,316	6,877	8,886	7,350	9,077
NSE	0	0	0	0	0
Total	2,638	7,588	9,757	8,843	10,673
FTE	3.7	9.2	10.1	18.1	18.7
Vacation & Sick (Nominal \$)					
Labor	55	127	152	288	288
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	55	127	152	288	288
FTE	0.7	1.7	1.8	3.6	3.5
Escalation to 2009\$					
Labor	45	74	61	45	0
Non-Labor	284	572	427	-18	0
NSE	0	0	0	0	0
Total	329	646	489	27	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	422	913	1,085	1,825	1,884
Non-Labor	2,600	7,449	9,313	7,332	9,077
NSE	0	0	0	0	0
Total	3,023	8,362	10,398	9,157	10,961
FTE	4.4	10.9	11.9	21.7	22.2

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity - Transmission (Subpart O)
 Category-Sub: 1. Transmission Pipeline Integrity
 Workpaper: 2EN001.000 - Transmission Pipeline Integrity

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000)				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Supplemental Workpapers for Workpaper 2EN001.000

**Southern California Gas Company -- Gas Engineering -- Witness Raymond K. Stanford
Supplemental Workpaper Calculations for Costs related to TIMP Assessments (Page 1 of 2)**

Description of upward pressure/ additional activities	Forecast								
	2010			2011			2012		
	Labor	Non Labor	FTE	Labor	Non Labor	FTE	Labor	Non Labor	FTE
In-line inspection (ILI) and verification digs - 73 assessment or reassessment projects. Costs include minimum of two tool runs to complete ILI, follow-on verification excavations, and any minor pipeline repairs that may be required. These projects can be very complicated, must be completed in sequence, and span multiple years. 2200-0256	\$350	\$3,765	3.7	\$655	\$7,056	7.1	\$718	\$7,726	7.7
Hydrostatic pressure testing of the injection and withdrawal piping in the Playa Del Rey storage field. Costs include piping isolation, purging operations, and hydrostatic testing. Current system operation allows removal of various sized intake and discharge piping in lieu of future mandated reassessment. 2200-0256	\$117	\$1,007	1.3	\$14	\$112	0.1	\$0	\$0	0.0
Hydrostatic pressure testing of the injection and withdrawal piping in the Goleta storage field. Costs include piping isolation, purging operations, and hydrostatic testing. 2200-0256	\$18	\$153	0.2	\$36	\$304	0.4	\$36	\$304	0.4
External Corrosion Direct Assessment of Department of Transportation defined Transmission Pipeline per Baseline Assessment Plan is 51.46 miles in 2010, 15.20 miles in 2011, and 16.11 miles in 2012 @ \$32,000/mile to survey (with a minimum cost of \$15,600 per project and 1.79 digs/mile (with a minimum of 4 digs per project) at a cost of \$40,000 per dig for non-labor. 152 digs are forecasted for 2010, 59 in 2011, and 155 in 2012.	\$678	\$7,799	7.5	\$707	\$2,888	7.7	\$707	\$7,048	8.0
3rd party vendor to prepare detailed feature studies of 35 pipelines prior to integrity assessment. 20 of these projects are characterized as short lines at a flat rate of \$16,000/line, and the 15 remaining projects are longer lines totaling 894.7 miles, at a cost of \$3400/mile. 10% charge or \$336,198 for scanning and indexing the work product. 2200-2290	\$0	\$3,698	0.0	\$0	\$0	0.0	\$0	\$0	0.0
Reduce line pressure due to shifting operational needs in lieu of conventional integrity assessment of 2 pipelines, 36-1002 and 36-8-01. Excavate 36-1002 and acquire 4 pipeline samples for analysis to confirm pipeline wall thickness and grade, at cost of \$55,000 per sample. Install pressure limiting station to separate 36-8-01 from 36-8-06 at a cost of \$150,000. 2200-2290	\$10	\$278	0.1	\$3	\$93	0.0	\$0	\$0	0.0

**Southern California Gas Company -- Gas Engineering -- Witness Raymond K. Stanford
 Supplemental Workpaper Calculations for Costs related to TIMP Assessments (Page 2 of 2)**

Description of upward pressure/ additional activities	Forecast								
	2010			2011			2012		
	Labor	Non Labor	FTE	Labor	Non Labor	FTE	Labor	Non Labor	FTE
CP Survey of 32 miles of pipeline that have been ILI inspected (\$32,000 /mile)		\$1,024							
In-line inspection and metalurgical analysis support team. Team Lead, staff engineers, technical advisors, administrative support. Provide analytical support during assessment phase of projects to determine severity of anomolies discovered in field, provide calcualtion for remaining life estimates, evaluate data to determine pipeline return-to-service status.	\$ 253	\$ 291	3.6	\$ 253	\$ 291	3.6	\$ 253	\$ 291	3.6
Conduct tethered In-Line Magnetci Flux-Leakage (MFL) inspection of cased transmission pipeline to comply with the PHMSA baseline assessment and future re-assessment requirements. These segments of cased pipeline can not be inspected using the appropriate assessment method, External Corrosion Direct Assessment, because it is ineffective on pipelines that are shielded and can not be physically accessed to perform direct assessment validations. 3 cased pipeline segments assessed in 2010, 43 in 2011, and 74 in 2012 at \$103,600 per project for the MFL tool cost, inspection analysis, and program documentation. 2290	\$26	\$284	0.3	\$379	\$4,076	4.1	\$652	\$7,015	7.1
Remove casing assembly from transmission pipeline segment to enable required assessment. Segments of cased pipeline can not be inspected using the appropriate assessment method, ECDA, because it is ineffective on pipelines that are shielded and can not be physically accessed to perform direct assessment validations. For these projects, it has been determined that the casing is superfluous (original conditions that required a cased crossing are no longer present). Casing will be excavated and removed to allow direct examination of the carrier pipe to comply with required baseline assessment and future re-assessment efforts. 12 casings removed in 2010, 12 in 2011, and 11 in 2012. The expense component is \$942 per project for vendor bellhole inspection, analysis, and program documentation. 2200-2290	\$1	\$10	0.0	\$1	\$10	0.0	\$1	\$9	0.0
	\$1,453	\$18,309	16.7	\$2,048	\$14,830	23.0	\$2,367	\$22,393	26.8

Southern California Gas Company
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Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
 Workpaper: 2EN002.000

Summary for Category: C. Pipeline Integrity - Distribution (Subpart P)

	In 2009\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
Labor	2,188	3,325	4,368	4,866
Non-Labor	4,382	5,960	14,462	26,231
NSE	0	4,892	5,635	0
Total	6,570	14,177	24,465	31,097
FTE	27.5	49.1	62.0	63.9

Workpapers belonging to this Category:

2EN002.000 Distribution Pipeline Integrity

Labor	2,188	3,325	4,368	4,866
Non-Labor	4,382	5,960	14,462	26,231
NSE	0	4,892	5,635	0
Total	6,570	14,177	24,465	31,097
FTE	27.5	49.1	62.0	63.9

Beginning of Workpaper
2EN002.000 - Distribution Pipeline Integrity

Southern California Gas Company
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 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
 Category-Sub: 1. Distribution Pipeline Integrity
 Workpaper: 2EN002.000 - Distribution Pipeline Integrity

Activity Description:

This group has been organized and resourced to address the requirements of the DOT mandated Distribution Integrity Management Program rules set forth in 49 CFR §192, Subpart P. Primarily, the activities will focus on generating and enhancing knowledge of piping system (location, materials, data retention, analysis, etc.); Threat identification and mitigation; evaluate, rank and address risk; Damage Prevention, Leakage prevention and mitigation, etc.

Forecast Methodology:

Labor - Zero-Based

Due to the recent enactment of the DIMP and the evolving nature of activities performed in this category, a zero based forecast best represents the funding requirements. Specific activities and programs developed for compliance with DIMP drive the labor expense requirements .

Non-Labor - Zero-Based

Due to the recent enactment of the DIMP and the evolving nature of activities performed in this category, a zero based forecast best represents the funding requirements. Specific activities and programs developed for compliance with DIMP drive the non labor expense requirements .

NSE - Zero-Based

Non standard escalation applies to the non-labor expenses associated with the the development of the GIS system, specifically for the document conversion efforts. These expenses are contractual obligations and any escalation would be handled within the contract agreement.

Summary of Results:

	In 2009\$ (000)							
	Adjusted-Recorded					Adjusted-Forecast		
Years	2005	2006	2007	2008	2009	2010	2011	2012
Labor	0	0	61	748	2,188	3,325	4,368	4,866
Non-Labor	0	0	1,029	3,268	4,382	5,960	14,462	26,231
NSE	0	0	0	0	0	4,892	5,635	0
Total	0	0	1,090	4,016	6,570	14,177	24,465	31,097
FTE	0.0	0.0	0.6	8.6	27.5	49.1	62.0	63.9

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Area: ENGINEERING
Witness: Stanford, Raymond K
Category: C. Pipeline Integrity - Distribution (Subpart P)
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Workpaper: 2EN002.000 - Distribution Pipeline Integrity

Forecast Summary:

Forecast Method		In 2009 \$(000)								
		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		2010	2011	2012	2010	2011	2012	2010	2011	2012
Labor	Zero-Based	0	0	0	3,325	4,368	4,866	3,325	4,368	4,866
Non-Labor	Zero-Based	0	0	0	5,960	14,462	26,231	5,960	14,462	26,231
NSE	Zero-Based	0	0	0	4,892	5,635	0	4,892	5,635	0
Total		0	0	0	14,177	24,465	31,097	14,177	24,465	31,097
FTE	Zero-Based	0.0	0.0	0.0	49.1	62.0	63.9	49.1	62.0	63.9

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	0	81	0	81	0.0	1-Sided Adj

GIS project implements an industry standard, geographic information system that supports SoCalGas gas transmission and distribution, and vegetation management, and Sempra Energy Utilities (SEu) land services, environmental, and telecommunications. Critical to this GIS is the replacement of numerous disparate applications and systems currently in place at SoCalGas that provide various types and levels of facility maps, mobile viewing platforms, plotting applications, and file management systems into a single application. These expenses reflect activities associated with data conversion of SCG gas distribution assets to the GIS. Employee Expense, System Integration, Consultants, and Temp Agency/Contractors.

2010	0	0	0	0	4.0	1-Sided Adj
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DREAMS-Driven Monitoring - Additional and Accelerated action leakage surveys will be conducted on a more frequent basis; thereby reducing the likelihood of the development of hazardous leaks through earlier detection. Applies to qualified DREAMS segments until replacement. Labor for additional monitoring. See Supplemental workpaper 2EN002.000_supp3.pdf.

2010	287	0	0	287	0.0	1-Sided Adj
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DREAMS-Driven Monitoring - Additional and Accelerated action leakage surveys will be conducted on a more frequent basis; thereby reducing the likelihood of the development of hazardous leaks through earlier detection. Applies to qualified DREAMS segments until replacement. Labor for additional monitoring. See Supplemental workpaper 2EN002.000_supp3.pdf

2010	0	3,849	0	3,849	0.0	1-Sided Adj
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This non labor expense is associated with the replacement of risers that fail inspection of the polyethylene (PE) anodeless riser inspection program. See Supplemental workpaper 2EN002.000_supp4.pdf

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Area: ENGINEERING
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 Workpaper: 2EN002.000 - Distribution Pipeline Integrity

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2010	0	0	0	0	11.0	1-Sided Adj

Labor resources to cover additional DIMP activities such as enhanced Damage Prevention , increased inspection of targeted excavations and backfill activities, material and equipment inspection, increased communication with contractors, etc. Included are funds to support equipment/training/mileage/expenses for new labor resources. Plus additional contract labor funding for DIMP driven initiatives and miscellaneous DIMP expenses .

2010	1,630	0	0	1,630	0.0	1-Sided Adj
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GIS project implements an industry standard, geographic information system that supports SoCalGas gas transmission and distribution, and vegetation management, and Sempra Energy Utilities (SEu) land services, environmental, and telecommunications. Critical to this GIS is the replacement of numerous disparate applications and systems currently in place at SoCalGas that provide various types and levels of facility maps, mobile viewing platforms, plotting applications, and file management systems into a single application. These expenses reflect activities associated with data conversion of SCG gas distribution assets to the GIS.

2010	0	0	0	0	26.9	1-Sided Adj
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GIS project implements an industry standard, geographic information system that supports SoCalGas gas transmission and distribution, and vegetation management, and Sempra Energy Utilities (SEu) land services, environmental, and telecommunications. Critical to this GIS is the replacement of numerous disparate applications and systems currently in place at SoCalGas that provide various types and levels of facility maps, mobile viewing platforms, plotting applications, and file management systems into a single application. These FTE's reflect the resources required to perform the activities associated with data conversion of SDG&E gas distribution assets to the GIS.

2010	0	100	0	100	0.0	1-Sided Adj
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Non labor resources to cover additional DIMP activities such as enhanced Damage Prevention, increased inspection of targeted excavations and backfill activities, material and equipment inspection, increased communication with contractors, etc. Included are funds to support equipment/training/mileage/expenses for new labor resources. Plus additional contract labor funding for DIMP driven initiatives and miscellaneous DIMP expenses .

2010	0	0	4,892	4,892	0.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
<p>GIS project implements an industry standard, geographic information system that supports SoCalGas gas transmission and distribution, and vegetation management, and Sempra Energy Utilities (SEu) land services, environmental, and telecommunications. Critical to this GIS is the replacement of numerous disparate applications and systems currently in place at SoCalGas that provide various types and levels of facility maps, mobile viewing platforms, plotting applications, and file management systems into a single application. These expenses reflect activities associated with data conversion of SCG gas distribution assets to the GIS. Non-Standard Escalation costs associated with ongoing contract commitments with consultants/contractors and conversion vendors.</p>						
2010	70	0	0	70	0.0	1-Sided Adj
<p>Above Ground Facility Protection, Vehicular Damage prevention - EFV's, Meter guards, Enhanced facility protection program. Labor requirements to install above ground facility protection to mitigate the vehicular damage thread within DIMP. See Supplemental workpaper 2EN002.000_supp5.pdf</p>						
2010	0	190	0	190	0.0	1-Sided Adj
<p>Above Ground Facility Protection, Vehicular Damage prevention - EFV's, Meter guards, Enhanced facility protection program. Non-Labor to cover materials and expenses associated with installation of above ground facility protection to mitigate the vehicular damage thread within DIMP. See Supplemental workpaper 2EN002.000_supp5.pdf</p>						
2010	0	0	0	0	1.0	1-Sided Adj
<p>Above Ground Facility Protection, Vehicular Damage prevention - EFV's, Meter guards, Enhanced facility protection program. Labor requirements to install above ground facility protection to mitigate the vehicular damage thread within DIMP. See Supplemental workpaper 2EN002.000_supp5.pdf</p>						
2010	100	0	0	100	0.0	1-Sided Adj
<p>Sewer Lateral Inspection Program (SLIP) Resources required for project management, data review and analysis, locate and mark, and conflict resolution as necessary. See Supplemental workpaper 2EN002.000_supp2.pdf</p>						
2010	0	0	0	0	1.0	1-Sided Adj
<p>Sewer Lateral Inspection Program (SLIP) Resources required for project management, data review and analysis, locate and mark, and conflict resolution as necessary. See Supplemental workpaper 2EN002.000_supp2.pdf</p>						
2010	0	1,690	0	1,690	0.0	1-Sided Adj
<p>Sewer Lateral Inspection Program (SLIP) Resources required for project management, data review and analysis, locate and mark, and conflict resolution as necessary. See Supplemental workpaper 2EN002.000_supp2.pdf</p>						

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 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
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 Workpaper: 2EN002.000 - Distribution Pipeline Integrity

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2010	900	0	0	900	0.0	1-Sided Adj

Labor resources to cover additional DIMP activities such as enhanced Damage Prevention , increased inspection of targeted excavations and backfill activities, material and equipment inspection, increased communication with contractors, etc. Included are funds to support equipment/training/mileage/expenses for new labor resources. Plus additional contract labor funding for DIMP driven initiatives and miscellaneous DIMP expenses .

2010	338	0	0	338	0.0	1-Sided Adj
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Polyethylene (PE) anodeless risers have a demonstrated propensity toward atmospheric corrosion just below the stopcock in the gas-carrying steel nipple portion of the assembly. This program will consist of dedicated crew of trained employees to expose, inspect, and apply improved coating system to all AL risers in service . All risers discovered that are leaking or that do not pass the inspection criteria will be replaced with new risers. See Supplemental workpaper 2EN002.000_supp4.pdf

2010	0	50	0	50	0.0	1-Sided Adj
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Polyethylene (PE) anodeless risers have a demonstrated propensity toward atmospheric corrosion just below the stopcock in the gas-carrying steel nipple portion of the assembly. This program will consist of dedicated crew of trained employees to expose, inspect, and apply improved coating system to all AL risers in service . All risers discovered that are leaking or that do not pass the inspection criteria will be replaced with new risers. See Supplemental workpaper 2EN002.000_supp4.pdf

2010	0	0	0	0	5.2	1-Sided Adj
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Polyethylene (PE) anodeless risers have a demonstrated propensity toward atmospheric corrosion just below the stopcock in the gas-carrying steel nipple portion of the assembly. This program will consist of dedicated crew of trained employees to expose, inspect, and apply improved coating system to all AL risers in service . All risers discovered that are leaking or that do not pass the inspection criteria will be replaced with new risers. See Supplemental workpaper 2EN002.000_supp4.pdf

2010 Total	3,325	5,960	4,892	14,177	49.1	
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2011	200	0	0	200	0.0	1-Sided Adj
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Sewer Lateral Inspection Program (SLIP) Resources required for project management, data review and analysis, locate and mark, and conflict resolution as necessary. See Supplemental workpaper 2EN002.000_supp2.pdf

2011	0	0	0	0	2.0	1-Sided Adj
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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Sewer Lateral Inspection Program (SLIP) Resources required for project management, data review and analysis, locate and mark, and conflict resolution as necessary. See Supplemental workpaper 2EN002.000_supp2.pdf						
2011	450	0	0	450	0.0	1-Sided Adj
Labor resources to cover additional DIMP activities such as enhanced Damage Prevention , increased inspection of targeted excavations and backfill activities, material and equipment inspection, increased communication with contractors, etc. Included are funds to support equipment/training/mileage/expenses for new labor resources. Plus additional contract labor funding for DIMP driven initiatives and miscellaneous DIMP expenses .						
2011	1,630	0	0	1,630	0.0	1-Sided Adj
GIS project implements an industry standard, geographic information system business solution. Includes business resource labor costs associated with continued GIS development and data conversion.						
2011	0	0	0	0	26.9	1-Sided Adj
GIS project implements an industry standard, geographic information system ongoing project support. Additional FTE count associated with continued GIS development and data conversion.						
2011	0	50	0	50	0.0	1-Sided Adj
Non labor resources to cover additional DIMP activities such as enhanced Damage Prevention, increased inspection of targeted excavations and backfill activities, material and equipment inspection, increased communication with contractors, etc. Included are funds to support equipment/training/mileage/expenses for new labor resources. Plus additional contract labor funding for DIMP driven initiatives and miscellaneous DIMP expenses .						
2011	0	0	5,635	5,635	0.0	1-Sided Adj
GIS project implements an industry standard, geographic information system ongoing project costs. Non-labor, Non-Standard Escalation costs associated with ongoing contract commitments with consultants/contractors and conversion vendors,						
2011	0	1,200	0	1,200	0.0	1-Sided Adj
Service line location research and mapping - This activity consists of research and mapping of service pipeline locations that were not able to be captured within the scope of the OpEx GIS conversion activity. The scope of work for the OpEx project was to capture service locations that were depicted on existing source map products and alternatively to capture service locations using automated address searching methods using available tabular data. See Supplemental workpaper 2EN002.000_supp1.pdf						
2011	0	540	0	540	0.0	1-Sided Adj

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
GIS Application Enhancements - As data is converted into the GIS, the company now has the ability to perform analysis, queries and develop reports that can help ensure compliance, enhance DIMP risk analysis and streamline operations. Expenses for hiring contractor to develop enhancements. See Supplemental workpaper 2EN002.000_supp1.pdf						
2011	200	0	0	200	0.0	1-Sided Adj
Geographic Boundary Conflation - Reconcile discrepancies between two datasets to get a new and consistent dataset. The vendor supplied landbase data does not exactly match the Company's legacy landbase, as a result Company boundaries and grids that were previously derived relative to the legacy base-map need to be reviewed and adjusted to assure that company operations that are driven off of these boundaries are not impacted by the change in the landbase data. Requires two positions. See Supplemental workpaper 2EN002.000_supp1.pdf						
2011	0	0	0	0	2.0	1-Sided Adj
Geographic Boundary Conflation - Reconcile discrepancies between two datasets to get a new and consistent dataset. The vendor supplied landbase data does not exactly match the Company's legacy landbase, as a result Company boundaries and grids that were previously derived relative to the legacy base-map need to be reviewed and adjusted to assure that company operations that are driven off of these boundaries are not impacted by the change in the landbase data. Requires two positions. See Supplemental workpaper 2EN002.000_supp1.pdf						
2011	367	0	0	367	0.0	1-Sided Adj
Above Ground Facility Protection, Vehicular Damage prevention - EFV's, Meter guards, Enhanced facility protection program. Labor requirements to install above ground facility protection to mitigate the vehicular damage thread within DIMP. See Supplemental workpaper 2EN002.000_supp5.pdf						
2011	0	993	0	993	0.0	1-Sided Adj
Above Ground Facility Protection, Vehicular Damage prevention - EFV's, Meter guards, Enhanced facility protection program. Non-Labor to cover materials and expenses associated with installation of above ground facility protection to mitigate the vehicular damage thread within DIMP. See Supplemental workpaper 2EN002.000_supp5.pdf						
2011	0	0	0	0	5.3	1-Sided Adj
Above Ground Facility Protection, Vehicular Damage prevention - EFV's, Meter guards, Enhanced facility protection program. Labor requirements to install above ground facility protection to mitigate the vehicular damage thread within DIMP. See Supplemental workpaper 2EN002.000_supp5.pdf						
2011	0	3,800	0	3,800	0.0	1-Sided Adj

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Sewer Lateral Inspection Program (SLIP) Resources required for project management, data review and analysis, locate and mark, and conflict resolution as necessary. See Supplemental workpaper 2EN002.000_supp2.pdf						
2011	270	0	0	270	0.0	1-Sided Adj
Network Connectivity Data Enhancements - This activity will enhance the converted GIS data leveraging out-of-the box GIS network tracing functionality. The categories of network connectivity that will be validated are: Cathodic Protection Areas, Isolation Area Maps, Pressure Districts. With the variations in sources data, it is estimated that this project will require 2.9 FTE's two full years to complete beginning in 2011 through 2012. The estimated labor expense for this group of activities is \$270,000 per year. See Supplemental workpaper 2EN002.000_supp1.pdf						
2011	0	0	0	0	2.9	1-Sided Adj
Network Connectivity Data Enhancements - This activity will enhance the converted GIS data leveraging out-of-the box GIS network tracing functionality. The categories of network connectivity that will be validated are: Cathodic Protection Areas, Isolation Area Maps, Pressure Districts. With the variations in sources data, it is estimated that this project will require 2.9 FTE's two full years to complete beginning in 2011 through 2012. The estimated labor expense for this group of activities is \$270,000 per year. See Supplemental workpaper 2EN002.000_supp1.pdf						
2011	0	0	0	0	10.4	1-Sided Adj
Polyethylene (PE) anodeless risers have a demonstrated propensity toward atmospheric corrosion just below the stopcock in the gas-carrying steel nipple portion of the assembly. This program will consist of dedicated crew of trained employees to expose, inspect, and apply improved coating system to all AL risers in service. All risers discovered that are leaking or that do not pass the inspection criteria will be replaced with new risers. See Supplemental workpaper 2EN002.000_supp4.pdf						
2011	677	0	0	677	0.0	1-Sided Adj
Polyethylene (PE) anodeless risers have a demonstrated propensity toward atmospheric corrosion just below the stopcock in the gas-carrying steel nipple portion of the assembly. This program will consist of dedicated crew of trained employees to expose, inspect, and apply improved coating system to all AL risers in service. All risers discovered that are leaking or that do not pass the inspection criteria will be replaced with new risers. See Supplemental workpaper 2EN002.000_supp4.pdf						
2011	0	81	0	81	0.0	1-Sided Adj
GIS project implements an industry standard, geographic information system development, conversion vendors, Employee Expense, System Integration, Consultants, and Temp Agency/Contractors.						

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	574	0	0	574	0.0	1-Sided Adj

DREAMS-Driven Monitoring - Additional and Accelerated action leakage surveys will be conducted on a more frequent basis; thereby reducing the likelihood of the development of hazardous leaks through earlier detection. Applies to qualified DREAMS segments until replacement. Labor for additional monitoring. See Supplemental workpaper 2EN002.000_supp3.pdf

2011	0	0	0	0	7.0	1-Sided Adj
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DREAMS-Driven Monitoring - Additional and Accelerated action leakage surveys will be conducted on a more frequent basis; thereby reducing the likelihood of the development of hazardous leaks through earlier detection. Applies to qualified DREAMS segments until replacement. Labor for additional monitoring. See Supplemental workpaper 2EN002.000_supp3.pdf

2011	0	100	0	100	0.0	1-Sided Adj
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Polyethylene (PE) anodeless risers have a demonstrated propensity toward atmospheric corrosion just below the stopcock in the gas-carrying steel nipple portion of the assembly. This program will consist of dedicated crew of trained employees to expose, inspect, and apply improved coating system to all AL risers in service. All risers discovered that are leaking or that do not pass the inspection criteria will be replaced with new risers. See Supplemental workpaper 2EN002.000_supp4.pdf

2011	0	7,698	0	7,698	0.0	1-Sided Adj
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This non labor expense is associated with the replacement of risers that fail inspection of the polyethylene (PE) anodeless riser inspection program. See Supplemental workpaper 2EN002.000_supp4.pdf

2011	0	0	0	0	5.5	1-Sided Adj
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Labor resources to cover additional DIMP activities such as enhanced Damage Prevention, increased inspection of targeted excavations and backfill activities, material and equipment inspection, increased communication with contractors, etc. Included are funds to support equipment/training/mileage/expenses for new labor resources. Plus additional contract labor funding for DIMP driven initiatives and miscellaneous DIMP expenses.

2011 Total	4,368	14,462	5,635	24,465	62.0	
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2012	0	1,000	0	1,000	0.0	1-Sided Adj
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Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
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 Workpaper: 2EN002.000 - Distribution Pipeline Integrity

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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Non labor resources to cover additional DIMP activities such as enhanced Damage Prevention, increased inspection of targeted excavations and backfill activities, material and equipment inspection, increased communication with contractors, etc. Included are funds to support equipment/training/mileage/expenses for new labor resources. Plus additional contract labor funding for DIMP driven initiatives and miscellaneous DIMP expenses .

2012	450	0	0	450	0.0	1-Sided Adj
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This increase in labor resources of six FTEs is to cover damage prevention activities in support of DIMP requirements , which includes the increase in inspection and surveillance, material and equipment inspection, increased communication with contractors, etc. Included are funds to support equipment/training/mileage/expenses for new labor resources.

2012	0	0	0	0	6.0	1-Sided Adj
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This increase in labor resources of six FTEs is to cover damage prevention activities in support of DIMP requirements , which includes the increase in inspection and surveillance, material and equipment inspection, increased communication with contractors, etc. Included are funds to support equipment/training/mileage/expenses for new labor resources.

2012	0	1,200	0	1,200	0.0	1-Sided Adj
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Service line location research and mapping - This activity consists of research and mapping of service pipeline locations that were not able to be captured within the scope of the OpEx GIS conversion activity. The scope of work for the OpEx project was to capture service locations that were depicted on existing source map products and alternatively to capture service locations using automated address searching methods using available tabular data. See Supplemental workpaper 2EN002.000_supp1.pdf

2012	200	0	0	200	0.0	1-Sided Adj
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Post-conversion data cleanup and research - This activity consists of performing data cleanup activities on converted GIS data. As a side-effect of the GIS conversion process, a comprehensive review of the input data sources throughout the service territory will have been conducted. Data problems identified during conversion are being annotated for future resolution. These problems are inherent in the input data sources and require further research to be resolved. Attempting to resolve these issues during conversion would cause delay in conversion production schedule and is not in scope of the current project. See Supplemental workpaper 2EN002.000_supp1.pdf

2012	0	0	0	0	2.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
 Category-Sub: 1. Distribution Pipeline Integrity
 Workpaper: 2EN002.000 - Distribution Pipeline Integrity

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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Post-conversion data cleanup and research - This activity consists of performing data cleanup activities on converted GIS data. As a side-effect of the GIS conversion process, a comprehensive review of the input data sources throughout the service territory will have been conducted. Data problems identified during conversion are being annotated for future resolution. These problems are inherent in the input data sources and require further research to be resolved. Attempting to resolve these issues during conversion would cause delay in conversion production schedule and is not in scope of the current project. See Supplemental workpaper 2EN002.000_supp1.pdf

2012	0	540	0	540	0.0	1-Sided Adj
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GIS Application Enhancements - As data is converted into the GIS, the company now has the ability to perform analysis, queries and develop reports that can help ensure compliance, enhance DIMP risk analysis and streamline operations. Expenses for hiring contractor to develop enhancements. See Supplemental workpaper 2EN002.000_supp1.pdf

2012	200	0	0	200	0.0	1-Sided Adj
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Geographic Boundary Conflation - Reconcile discrepancies between two datasets to get a new and consistent dataset. The vendor supplied landbase data does not exactly match the Company's legacy landbase, as a result Company boundaries and grids that were previously derived relative to the legacy base-map need to be reviewed and adjusted to assure that company operations that are driven off of these boundaries are not impacted by the change in the landbase data. Requires two positions. See Supplemental workpaper 2EN002.000_supp1.pdf

2012	0	0	0	0	2.0	1-Sided Adj
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Geographic Boundary Conflation - Reconcile discrepancies between two datasets to get a new and consistent dataset. The vendor supplied landbase data does not exactly match the Company's legacy landbase, as a result Company boundaries and grids that were previously derived relative to the legacy base-map need to be reviewed and adjusted to assure that company operations that are driven off of these boundaries are not impacted by the change in the landbase data. Requires two positions. See Supplemental workpaper 2EN002.000_supp1.pdf

2012	135	0	0	135	0.0	1-Sided Adj
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Regulator Station Enhancements - This activity will enhance the representation of regulator stations within the GIS. The scope of the GIS conversion represents regulator stations as simplified schematic drawings. This enhancement will enable full details of regulator stations to be visualized, analyzed, traced and queried within the GIS System. Expenses to additional FTE and non labor application enhancements. (DIMP 14). See Supplemental workpaper 2EN002.000_supp1.pdf

2012	606	0	0	606	0.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
 Category-Sub: 1. Distribution Pipeline Integrity
 Workpaper: 2EN002.000 - Distribution Pipeline Integrity

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Above Ground Facility Protection, Vehicular Damage prevention - EFV's, Meter guards, Enhanced facility protection program. Labor requirements to install above ground facility protection to mitigate the vehicular damage thread within DIMP. See Supplemental workpaper 2EN002.000_supp5.pdf						
2012	0	1,646	0	1,646	0.0	1-Sided Adj
Above Ground Facility Protection, Vehicular Damage prevention - EFV's, Meter guards, Enhanced facility protection program. Non-Labor to cover materials and expenses associated with installation of above ground facility protection to mitigate the vehicular damage thread within DIMP. See Supplemental workpaper 2EN002.000_supp5.pdf						
2012	0	0	0	0	8.7	1-Sided Adj
Above Ground Facility Protection, Vehicular Damage prevention - EFV's, Meter guards, Enhanced facility protection program. Labor requirements to install above ground facility protection to mitigate the vehicular damage thread within DIMP. See Supplemental workpaper 2EN002.000_supp5.pdf						
2012	400	0	0	400	0.0	1-Sided Adj
Sewer Lateral Inspection Program (SLIP) Resources required for project management, data review and analysis, locate and mark, and conflict resolution as necessary. See Supplemental workpaper 2EN002.000_supp2.pdf						
2012	0	0	0	0	4.0	1-Sided Adj
Sewer Lateral Inspection Program (SLIP) Resources required for project management, data review and analysis, locate and mark, and conflict resolution as necessary. See Supplemental workpaper 2EN002.000_supp2.pdf						
2012	0	7,103	0	7,103	0.0	1-Sided Adj
Sewer Lateral Inspection Program (SLIP) Resources required for project management, data review and analysis, locate and mark, and conflict resolution as necessary. See Supplemental workpaper 2EN002.000_supp2.pdf						
2012	0	0	0	0	2.9	1-Sided Adj
Network Connectivity Data Enhancements - This activity will enhance the converted GIS data leveraging out-of-the box GIS network tracing functionality. The categories of network connectivity that will be validated are: Cathodic Protection Areas, Isolation Area Maps, Pressure Districts. With the variations in sources data, it is estimated that this project will require 2.9 FTE's two full years to complete beginning in 2011 through 2012. The estimated labor expense for this group of activities is \$270,000 per year. See Supplemental workpaper 2EN002.000_supp1.pdf						
2012	0	0	0	0	31.3	1-Sided Adj

Southern California Gas Company
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 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
 Category-Sub: 1. Distribution Pipeline Integrity
 Workpaper: 2EN002.000 - Distribution Pipeline Integrity

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
<p>Polyethylene (PE) anodeless risers have a demonstrated propensity toward atmospheric corrosion just below the stopcock in the gas-carrying steel nipple portion of the assembly. This program will consist of dedicated crew of trained employees to expose, inspect, and apply improved coating system to all AL risers in service. All risers discovered that are leaking or that do not pass the inspection criteria will be replaced with new risers. See Supplemental workpaper 2EN002.000_supp4.pdf</p>						
2012	2,031	0	0	2,031	0.0	1-Sided Adj
<p>Polyethylene (PE) anodeless risers have a demonstrated propensity toward atmospheric corrosion just below the stopcock in the gas-carrying steel nipple portion of the assembly. This program will consist of dedicated crew of trained employees to expose, inspect, and apply improved coating system to all AL risers in service. All risers discovered that are leaking or that do not pass the inspection criteria will be replaced with new risers. See Supplemental workpaper 2EN002.000_supp4.pdf</p>						
2012	0	1,650	0	1,650	0.0	1-Sided Adj
<p>GIS System Model Consolidation - High pressure distribution data is stored and maintained by both systems. Ongoing maintenance of high pressure distribution data in both systems is time consuming and will likely cause reporting inconsistencies in the future. This activity supports streamlining of data maintenance procedures and data consistency for assets that are currently found in both systems. (DIMP-1) See Supplemental workpaper 2EN002.000_supp1.pdf</p>						
2012	270	0	0	270	0.0	1-Sided Adj
<p>Network Connectivity Data Enhancements - This activity will enhance the converted GIS data leveraging out-of-the box GIS network tracing functionality. The categories of network connectivity that will be validated are: Cathodic Protection Areas, Isolation Area Maps, Pressure Districts. With the variations in sources data, it is estimated that this project will require 2.9 FTE's two full years to complete beginning in 2011 through 2012. The estimated labor expense for this group of activities is \$270,000 per year. See Supplemental workpaper 2EN002.000_supp1.pdf</p>						
2012	574	0	0	574	0.0	1-Sided Adj
<p>DREAMS-Driven Monitoring - Additional and Accelerated action leakage surveys will be conducted on a more frequent basis; thereby reducing the likelihood of the development of hazardous leaks through earlier detection. Applies to qualified DREAMS segments until replacement. Labor for additional monitoring. See Supplemental workpaper 2EN002.000_supp3.pdf</p>						
2012	0	0	0	0	7.0	1-Sided Adj

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
 Category-Sub: 1. Distribution Pipeline Integrity
 Workpaper: 2EN002.000 - Distribution Pipeline Integrity

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
<p>DREAMS-Driven Monitoring - Additional and Accelerated action leakage surveys will be conducted on a more frequent basis; thereby reducing the likelihood of the development of hazardous leaks through earlier detection. Applies to qualified DREAMS segments until replacement. Labor for additional monitoring. See Supplemental workpaper 2EN002.000_supp3.pdf</p>						
2012	0	300	0	300	0.0	1-Sided Adj
<p>Polyethylene (PE) anodeless risers have a demonstrated propensity toward atmospheric corrosion just below the stopcock in the gas-carrying steel nipple portion of the assembly. This program will consist of dedicated crew of trained employees to expose, inspect, and apply improved coating system to all AL risers in service. All risers discovered that are leaking or that do not pass the inspection criteria will be replaced with new risers. See Supplemental workpaper 2EN002.000_supp4.pdf</p>						
2012	0	12,702	0	12,702	0.0	1-Sided Adj
<p>This non labor expense is associated with the replacement of risers that fail inspection of the polyethylene (PE) anodeless riser inspection program. See Supplemental workpaper 2EN002.000_supp4.pdf</p>						
2012	0	90	0	90	0.0	1-Sided Adj
<p>Regulator Station Enhancements - This activity will enhance the representation of regulator stations within the GIS. The scope of the GIS conversion represents regulator stations as simplified schematic drawings. This enhancement will enable full details of regulator stations to be visualized, analyzed, traced and queried within the GIS System. Expenses to additional FTE and non labor application enhancements. (DIMP 14). See Supplemental workpaper 2EN002.000_supp1.pdf</p>						
2012 Total	4,866	26,231	0	31,097	63.9	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Non-Shared Service Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: C. Pipeline Integrity - Distribution (Subpart P)
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Workpaper: 2EN002.000 - Distribution Pipeline Integrity

Determination of Adjusted-Recorded:

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	49	612	1,853
Non-Labor	0	0	982	3,277	4,382
NSE	0	0	0	0	0
Total	0	0	1,031	3,888	6,235
FTE	0.0	0.0	0.5	7.2	23.1
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	0	0	49	612	1,853
Non-Labor	0	0	982	3,277	4,382
NSE	0	0	0	0	0
Total	0	0	1,031	3,888	6,235
FTE	0.0	0.0	0.5	7.2	23.1
Vacation & Sick (Nominal \$)					
Labor	0	0	9	118	335
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	9	118	335
FTE	0.0	0.0	0.1	1.4	4.4
Escalation to 2009\$					
Labor	0	0	3	18	0
Non-Labor	0	0	47	-8	0
NSE	0	0	0	0	0
Total	0	0	51	10	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	0	0	61	748	2,188
Non-Labor	0	0	1,029	3,268	4,382
NSE	0	0	0	0	0
Total	0	0	1,090	4,017	6,570
FTE	0.0	0.0	0.6	8.6	27.5

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
 Category-Sub: 1. Distribution Pipeline Integrity
 Workpaper: 2EN002.000 - Distribution Pipeline Integrity

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000)				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007	49	0	0	0.0	CCTR Transf	From 2200-2296.001	TP1RMC2010042 6172806533
Transfer funds from DIMP balancing account to non-balancing account. Expenses associated with gas distribution GIS development activites. Work done prior to the establishment of the DIMP balancing account in 2008. Work is in support of overall DIMP goals.							
2007	-49	0	0	0.0	CCTR Transf	To 2200-2296.000	TP1RMC2010042 6172806533
Transfer funds from DIMP balancing account to non-balancing account. Expenses associated with gas distribution GIS development activites. Work done prior to the establishment of the DIMP balancing account in 2008. Work is in support of overall DIMP goals.							
2007	0	982	0	0.0	CCTR Transf	From 2200-2296.001	TP1RMC2010042 6172900877
Transfer funds from DIMP balancing account to non-balancing account. Expenses associated with gas distribution GIS development activites. Work done prior to the establishment of the DIMP balancing account in 2008. Work is in support of overall DIMP goals.							

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution (Subpart P)
 Category-Sub: 1. Distribution Pipeline Integrity
 Workpaper: 2EN002.000 - Distribution Pipeline Integrity

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2007	0	-982	0	0.0	CCTR Transf	To 2200-2296.000	TP1RMC2010042 6172900877

Transfer funds from DIMP balancing account to non-balancing account. Expenses associated with gas distribution GIS development activities. Work done prior to the establishment of the DIMP balancing account in 2008. Work is in support of overall DIMP goals.

2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Supplemental Workpapers for Workpaper 2EN002.000

Supplemental Workpaper Calculations - GIS Enhancements (1 of 4)

GIS System Model Consolidation - Consolidate high pressure GIS System and Distribution GIS systems. In order to minimize impact to compliance with transmission integrity management program regulations and timelines, development of the DIMP GIS system was planned in parallel to the high pressure GIS system that is already in production. High pressure distribution data is stored and maintained by both systems. Ongoing maintenance of high pressure distribution data in both systems is time consuming and will likely cause reporting inconsistencies in the future. This activity supports streamlining of data maintenance procedures and data consistency for assets that are currently found in both systems. (DIMP-1)

Cost Estimate Methodology:

Total Project Cost (\$1,650K)

Labor;_Project Managers to lead various aspects of project = 6 FTE x \$100K = **\$600K**

Non-Labor_(\$1,050K total) – Four year process beginning in 2012

External Contractor for project management = 1 FTE x \$225K = **\$225K**

Miner & Miner Consultant = 3 FTE x \$200K = **\$600K**

Avineon/Infotech, Consultant = **\$225**

Service line location research and mapping - This activity consists of research and mapping of service pipeline locations that were not able to be captured within the scope of the OpEx GIS conversion activity. The scope of work for the OpEx project was to capture service locations that were depicted on existing source map products and alternatively to capture service locations using automated address searching methods using available tabular data. Upon completion of 33 percent of the conversion for the So Cal Gas Service Territory, only 93 percent of known services could be mapped with this methodology. Additional research into work order files and other documents is required to map service pipe locations for all known services. This activity will support analysis required by the DIMP plan, as well as consistency of data between the GIS mapping products and the tabular service history system. The "post-OpEx" work will be a two-step process. First we will utilize available technology and datasets in an attempt to geocode the unmapped services in a programmatic approach. Any remaining services will require manual research and placement within the GIS. (DIMP-2)

Cost Estimate Methodology/Assumptions:

500,000 unmatched services requiring 15 minutes research each (4 per hour);

\$100,000 per GIS skilled contract employee

5-year project, with 12 dedicated contract employees

Total annual cost = **\$1,200K** beginning in 2011

Supplemental Workpaper Calculations - GIS Enhancements (2 of 4)

Post-conversion data cleanup and research - This activity consists of performing data cleanup activities on converted GIS data. As a side-effect of the GIS conversion process, a comprehensive review of the input data sources throughout the service territory will have been conducted. Data problems identified during conversion are being annotated for future resolution. These problems are inherent in the input data sources and require further research to be resolved. Attempting to resolve these issues during conversion would cause delay in conversion production schedule and is not in scope of the current project. Examples of items that were noted for future resolution during conversion include: Inconsistencies between input data sources, missing data, and illegible data sources. Approximately (60,000) items were identified for future research through completion of the first 33 percent of the converted data. In addition, now that the data is in GIS format, the company now has the ability to perform analysis and queries to find errors and inconsistencies in the data that would have required intense manual scrutiny in the legacy system.
(DIMP-6)

Cost Estimate Methodology/Assumptions:

180,000 post conversion items requiring resolution
Assume a skilled contractor can resolve approximately 70 items per day
\$100,000 per GIS contract employee
5-year project with 2 dedicated positions

Total annual Labor cost = **\$200,000** beginning in 2012

GIS Application Enhancements - As data is converted into the GIS, the company now has the ability to perform analysis, queries and develop reports that can help ensure compliance, enhance DIMP risk analysis and streamline operations. Some examples of requested enhancements include:

- Analysis of commercial land base data to assist in identification of business districts to assure correct assignment of leak survey frequency.
- Analysis of leak survey schedules to optimize dispatch of equipment and personnel.
- Enhance the distribution risk analysis model, DREAMS, to include additional risk factors, algorithm upgrades and service data. (DIMP-7)

Cost Estimate Methodology/Assumptions:

This enhancement will require contracting the services of a GIS application development service company. The estimated costs are \$600,000 per year for the envisioned enhancements. This will be a 2-year project beginning in 2011. Since the enhancements will be of benefit to both utilities an estimated 90% SCG and 10% SDG&E split was used in the forecast.

Total annual non-labor cost = **\$540,000**, for 2011 and 2012

Supplemental Workpaper Calculations - GIS Enhancements (3 of 4)

Geographic Boundary Conflation - Digital map conflation is a methodology to reconcile discrepancies between two datasets to get a new and consistent dataset. This activity consists of conflation of company boundaries to be consistent a new vendor supplied landbase base-map. Historically, landbase data such as parcels and right of way data have been maintained by an internally by the company within the legacy system. It was not feasible to convert the company maintained landbase data, so a vendor provided solution was procured. The vendor supplied landbase data does not exactly match the Company's legacy landbase, as a result Company boundaries and grids that were previously derived relative to the legacy base-map need to be reviewed and adjusted to assure that company operations that are driven off of these boundaries are not impacted by the change in the landbase data. (DIMP 10)

Cost Estimate Methodology/Assumptions:

With approximately 34,000 maps, and 4 sides per map it is estimated that it will take 2 skilled GIS personnel, two years to complete this project.

\$100,000 per GIS employee

$(34 \text{ maps/day}) \times (2\text{FTE}) \times (250 \text{ days/year/FTE}) = 17,000 \text{ maps per year,}$

Total annual labor cost = **\$200,000**, for 2011 and 2012

Regulator Station Enhancements - This activity will enhance the representation of regulator stations within the GIS. The scope of the GIS conversion represents regulator stations as simplified schematic drawings. This enhancement will enable full details of regulator stations to be visualized, analyzed, traced and queried within the GIS System (DIMP 14)

Cost Estimate Methodology/Assumptions:

For Labor: This project is estimated to take one year and require the expertise of 1.3 skilled GIS personnel.

For Non-labor: This enhancement will require additional application enhancements beyond those already addressed. The enhancements are estimated to cost \$90,000.

Total annual labor cost = **\$135,000**, for 2012

Total Non labor cost = **\$90,000** for 2012

Supplemental Workpaper Calculations - GIS Enhancements (4 of 4)

Network Connectivity Data Enhancements - This activity will enhance the converted GIS data leveraging out-of-the box GIS network tracing functionality. The legacy system was not capable of maintaining network connectivity or executing trace functions, therefore, this information could not be translated as part of the data conversion. Currently, activities that involve network tracing require time consuming manual visual inspection of map products. During this activity, network connectivity will be established validated within the GIS to enable more efficient operations. The categories of network connectivity that will be validated are:

Cathodic Protection Areas: Currently cathodic protection area maps are maintained on approximately 19,000 paper maps. This activity will use GIS tools to trace and capture cathodic protection areas within in the GIS and allow for validation against the hard copy maps. Subsequently, the cathodic protection area data in the GIS can be used for query, analysis and risk modeling

Isolation Area Maps: Currently Isolation Area maps are maintained as paper records in a binder. This activity will trace Isolation Areas within the GIS and allow for validation against the paper sources.

Pressure Districts: Each of the approximately 1200 pressure districts will be traced in the GIS and validated against polygons that the GIS connectivity is accurate.
(DIMP 11, 12, 13)

A polygon is simply an area outlining a contiguous set of pipelines that are part of a single area. Currently, that work is performed manually. With the data included in GIS, electronic traces can be conducted to verify that the connectivity of the pipelines within a defined polygon is correct and areas that need follow-up can be identified. This is especially true for CP.

Cost Estimate Methodology/Assumptions:

With the variations in sources data, it is estimated that this project will require 2.9 FTE's two full years to complete beginning in 2011 through 2012. The estimated labor expense for this group of activities is \$270,000 per year.

Total annual labor cost = **\$270,000**, for 2011 and 2012

Southern California Gas Company -- Gas Engineering -- Witness Raymond K. Stanford
Supplemental Workpaper Calculations for incremental costs related to Sewer Lateral Inspection Program (SLIP)

The sewer lateral inspection program addresses a low probability, but potentially serious issue relating to natural gas pipelines installed using “trenchless technology” where the natural gas pipeline is bored into the earth and inadvertently penetrates a sewer lateral. The purpose of the SEU sewer lateral inspection program is to address this facility conflict issue by:

1. Developing a communication plan to educate plumbing contractors, equipment rental companies and municipalities;
2. Establishing an high priority locate and mark response for plumbers;
3. Performing an extensive records review to identify locations where plastic gas lines were installed by cross-bore technologies, and locations where sewer cross-bores are not an issue;
4. Performing on-site-site inspections to clear potential facility conflicts ;
5. Documenting the results of all record reviews and physical inspections;
6. Updating Company practices and documentation to reflect new processes;
7. Adjust DIMP and program as needed to address new issues that emerge from the knowledge gained.

Workgroup affected: **Distribution Integrity Management Program**

Methodology: **Costs for performing SLIP is calculated as follows:** The scope and magnitude of the program was established based on the potential number of conflicts to be addressed, the amount and format of data to be reviewed, and resolution requirements (See table 1 below). The program and associated costs were spread over five and a half years with a partial year in 2010 to begin program development, records review, contractor identification and training. (See table 2 below)

Labor:
 One Program Manager for 2010, Additional Project Manager in 2011, Two Additional Project Managers in 2012

Non-Labor:
 Non labor expenses to cover company expenses and contract labor via local plumbing contractors.

Table 1
Estimated Cost of Sewer Lateral Program at SoCalGas

	Cost (\$ million)	Units (x1000)	
Records review	\$18.05	361	No. of services in program
Field Locating	\$11.90	119	33% of services
Video Inspection	\$5.00	25	7% of services
Resolve Conflict	\$0.82	0.4	No. of potential physical conflict - 0.1% per mile*
Communications Program	\$0.16		
Grand Total SoCalGas	\$35.930		

* Based on SWG SLIP study

Table 2 - Program Schedule

	2010	2011	2012	2013	2014	2015	5 Yr Total
O&M Costs							
Labor	\$ 100	\$ 200	\$ 400	\$ 400	\$ 400	\$ 400	\$ 1,900
Non-Labor	\$ 1,690	\$ 3,800	\$ 7,103	\$ 7,103	\$ 7,103	\$ 7,230	\$ 33,903
Total - SCG	\$ 1,790	\$ 4,000	\$ 7,503	\$ 7,503	\$ 7,503	\$ 7,630	\$ 35,930

Supplemental Workpaper Calculations for incremental costs related to DREAMS-Driven Monitoring

DIMP Threat: Pipeline leakage

Unprotected steel and early generation plastic (non state-of-the-art pipe) within SCG service territories are managed by the DREAMS database application process. The DIMP threat associated with these segments is the potential for developing hazardous leaks. These main and service assets are actively being defined and segmented through the use of the DREAMS program to assess the relative risk and mitigate future leakage through replacement of the highest risk facilities. However, due to various business issues (such as city street dig moratoriums, permit issues, budgetary issues, and limited resources) not all segments can be immediately replaced. As an additional and accelerated action leakage surveys will be conducted on a more frequent basis; thereby reducing the likelihood of the development of hazardous leaks through earlier detection.

Workgroup affected: **Distribution Integrity Management Program**

Methodology: **Costs for performing DREAMS driven monitoring is calculated as follows:**

Labor:

Identify additional total footage to be surveyed; System survey average per 1000 feet = \$98.15;
Construction Technician, \$29.92/ hr (\$2009) with 18.07%V&S = \$73,479annual

Non-Labor:

none identified

SCG Service Territory Miles	Category	Leakage Survey Cycle		Annual Equivalent		Incremental Increase
		Current	New	Current	New	
1700	Total Miles					
1377	Unprotected Steel	3 yr	1 yr	459	1377	918.0
153	PE Pipe	5 yr	3 yr	30.6	51	20.4
17	PE Pipe Bus Dist	1 yr	6 mo	17	34	17.0
153	Unp Stl Bus Dist	1 yr	6 mo	153	306	153.0
Total Survey Increase (mi)						1108.4
Survey Cost per mile \$						518.23
Total Annual Cost \$						574,408

Year		Total
2010	Half year	\$ 287,204
2011	full year	\$ 574,408
2012	full year	\$ 574,408

Southern California Gas Company -- Gas Engineering -- Witness Raymond K. Stanford

Supplemental Workpaper Calculations for incremental costs related to Anodeless Riser Inspection & Mitigation Program

DIMP Threats and root cause:

Above ground leakage due to atmospheric corrosion - Polyethylene (PE) anodeless risers have a demonstrated propensity toward atmospheric corrosion just below the stopcock in the gas-carrying steel nipple portion of the assembly. The root cause of such corrosion is usually due to environmental conditions that result in a constant or frequent presence of moisture. The environmental moisture factor can be compounded in some AL riser designs by the presence of shrink sleeves and ID tags that can trap and retain moisture against the surface of the steel making them less tolerant to moisture exposure.

Program Summary:

Research has been underway to develop an effective means of mitigating the above ground and ground level corrosion on AL risers. The effort has lead to development of a solution using Trenton Wax Tape, which provides the protection of the above ground section of the riser in the severe environmental conditions that are typical of riser installations. This program will consist of dedicated crew of trained employees to expose, inspect, and apply improved coating system to all AL risers in service. All riser discovered that are leaking or that do not pass the inspection criteria will be replaced with new risers.

Methodology:

Below are tables depicting the assumptions and estimates that are used to develop the resource requirements for this program. The repair labor is based on the number of inspections divided by the inspection rate; non labor based on number of repairs times cost per repair. The replacement, non labor costs are the product of the number of assumed replacements times the average cost per replacement. At the rate of repair/replacement this is over a 10 year program.

Assumptions:

Blended labor rate	\$65,000 (Grade 4 & 5)
Inspection rate	40 risers/day
work days	240 days per year
inspection rate	9600 risers/yr/fte
NL Material cost	\$ 1.00 per riser (tape)
Avg Riser replacement cost per Dist.	\$307.93

Estimated Repair and Replacement risers

Yr	# Insp	# Dont Pass (replace)	Repl Cost
2010	50,000	12,500	\$ 3,849,125
2011	100,000	25,000	\$ 7,698,250
2012	300,000	41,250	\$ 12,702,113
2013	300,000	41,250	\$ 12,702,113
2014	300,000	41,250	\$ 12,702,113
2015	300,000	41,250	\$ 12,702,113
Totals	1,350,000	202,500	

Cost Schedule

	2010 labor	NL	FTE	2011 labor	NL	FTE	2012 labor	NL	FTE
wax repair	\$ 338,542	\$ 50,000	5.2	\$ 677,083	\$ 100,000	10.4	\$2,031,250	\$ 300,000	31.3
replace		\$ 3,849,125			\$ 7,698,250			\$ 12,702,113	

Southern California Gas Company -- Gas Engineering -- Witness Raymond K. Stanford
Supplemental Workpaper for incremental costs related to Above Ground Facilities - Vehicular Damage Mitigation

Threat of vehicular damage to above ground gas facilities in the vicinity of roadway intersections due to automobile traffic
 The threat of vehicular damage to gas facilities is not new. In fact, SoCalGas has existing procedures to protect meter set assemblies and other above ground facilities (AGF's) as a point of normal business. This program addresses those AGF's that may not be identified by existing procedures, but after additional analysis do require mitigative resolution.
 The project scope was to identify all SoCalGas above ground pressurized gas facilities located within a 50ft radius from any corner of a street or highway intersection, or other intersecting transportation pathways intended for routine vehicular traffic. The identified facilities were then reviewed and evaluated for potential risk associated with vehicular impacts causing escaping gas.
 Approximately 145,000 potential SEU residential meter set assemblies were identified near an intersection and of those, an estimated 10,492 of those were in SoCalGas service territory and determined to be at high risk of severe vehicle collision and warranting mitigative attention.

Workgroup affected: **Distribution Integrity Management Program**

Methodology: **Costs for installation of Excess Flow Valve (EFV) to small MSA's, FSR's, high pressure taps:**
Labor:
 Number installations per year x Estimate of time per installation x Hourly Labor cost for 2-man crew
Non-Labor
 Non-labor costs (purchase of EFV, City permit, Isolation cut's, Misc. contingency)

Assumptions: [A]: Planned program installation units
 [F]: Average cost for City Permit
 [G]: Average cost to excavate and repair surface
 [H]: Contingency for extra's such as additional excavation/paving costs

	[A]	[B]	[C]	[D]	[Z] =[Ax(Bx(C+D))]	Z/((C+D)/2)x2080
Labor	Total EFV's installed	Hours per installation	Lead CT Hourly Rate	CT Hourly Rate	Total	FTE
2010	260	4.0	\$37.22	\$ 29.92	\$ 69,826	1.0
2011	1,360	4.0	\$37.22	\$ 29.92	\$ 365,242	5.2
2012	2,255	4.0	\$37.22	\$ 29.92	\$ 605,603	8.7

	[A]	[E]	[F]	[G]	[H]	[Ax(E+F+G+H)]
Non Labor	Total EFV's installed	Cost per EFV	Permit cost	Excavation costs	Contingency	Total
2010	260	\$15.00	\$400.00	\$ 240.00	\$ 75.00	\$ 189,800
2011	1,360	\$15.00	\$400.00	\$ 240.00	\$ 75.00	\$ 992,800
2012	2,255	\$15.00	\$400.00	\$ 240.00	\$ 75.00	\$ 1,646,150

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Public Awareness
 Workpaper: 2EN003.000

Summary for Category: D. Public Awareness

	In 2009\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
Labor	1	69	69	69
Non-Labor	306	344	1,022	1,090
NSE	0	0	0	0
Total	307	413	1,091	1,159
FTE	0.0	0.9	0.9	0.9

Workpapers belonging to this Category:

2EN003.000 Public Awareness

Labor	1	69	69	69
Non-Labor	306	344	1,022	1,090
NSE	0	0	0	0
Total	307	413	1,091	1,159
FTE	0.0	0.9	0.9	0.9

Beginning of Workpaper
2EN003.000 - Public Awareness

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Public Awareness
 Category-Sub: 1. Public Awareness
 Workpaper: 2EN003.000 - Public Awareness

Activity Description:

The activities associated with the Public Awareness work group focus on those mandated by 49 CFR Part 192, Section 192.616 requiring the development and implementation of a public awareness program. This program includes the identification of and communication with impacted customers and non-customers. There are specific messages, delivery methods and the frequencies for the communications for each targeted audience. In addition, there are requirements for tracking of communications data analysis and effectiveness evaluations. The program impacts multiple organizations within SoCalGas. Coordination of these efforts is managed within Gas Engineering.

Forecast Methodology:

Labor - Base YR Rec

Since the Public Awareness program is a relatively new regulation there is insufficient historical data to provide meaningful trends and averages. Therefore, the 2009 baseline level with identified incremental requirements serves as the best means to forecast ongoing funding needs.

Non-Labor - Base YR Rec

Since the Public Awareness program is a relatively new regulation there is insufficient historical data to provide meaningful trends and averages. Therefore, the 2009 baseline level with identified incremental requirements serves as the best means to forecast ongoing funding needs.

NSE - Base YR Rec

There are no Non-Standard Escalation expenses in this work group.

Summary of Results:

	In 2009\$ (000)								
	Adjusted-Recorded					Adjusted-Forecast			
	2005	2006	2007	2008	2009	2010	2011	2012	
Years									
Labor	0	19	18	17	1	69	69	69	
Non-Labor	0	307	263	324	306	344	1,022	1,090	
NSE	0	0	0	0	0	0	0	0	
Total	0	326	281	341	307	413	1,091	1,159	
FTE	0.0	0.2	0.2	0.2	0.0	0.9	0.9	0.9	

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Public Awareness
 Category-Sub: 1. Public Awareness
 Workpaper: 2EN003.000 - Public Awareness

Forecast Summary:

Forecast Method		In 2009 \$(000)								
		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		2010	2011	2012	2010	2011	2012	2010	2011	2012
Labor	Base YR Rec	1	1	1	68	68	68	69	69	69
Non-Labor	Base YR Rec	306	306	306	38	716	784	344	1,022	1,090
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		307	307	307	106	784	852	413	1,091	1,159
FTE	Base YR Rec	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	0	34	0	34	0.0	1-Sided Adj

PI Confluence, ICAM - Public Awareness module. Public Awareness targeted stakeholder communications tracking system maintenance and licensing fees. (\$40*.85=\$34k for 2010,2011); (\$70kx.85=\$60k for 2012)

2010	68	0	0	68	0.0	1-Sided Adj
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To handle the increased requirements of stakeholder communications including program management and coordination, tracking communications, evaluating program effectiveness. Additional 0.85 FTE to support ongoing program management activities associated with the Public Awareness program. \$68k salary (\$80k x 85% = \$68k)

2010	0	0	0	0	0.9	1-Sided Adj
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To handle the increased requirements of stakeholder communications including program management and coordination, tracking communications, evaluating program effectiveness. Additional 0.85 FTE to support ongoing program management activities associated with the Public Awareness program.

2010	0	4	0	4	0.0	1-Sided Adj
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To handle the increased requirements of stakeholder communications including program management and coordination, tracking communications, evaluating program effectiveness. Non labor funding for miscellaneous expenses for new FTE. Included are mileage, cell phone, incidentals.

2010 Total	68	38	0	106	0.9	
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Public Awareness
 Category-Sub: 1. Public Awareness
 Workpaper: 2EN003.000 - Public Awareness

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	0	500	0	500	0.0	1-Sided Adj

The goal of the this program is to improve the public's awareness of pipeline operations and safety issues through enhanced communications with the various stakeholders including the utilities customers and non-customers location within proximity of under transmission facilities. This expense focuses this effort on the following audience: Residents in Distribution Service Territory, and Residents outside of the Distribuiton Service Territory but still in proximity to transmission lines.

2011	0	50	0	50	0.0	1-Sided Adj
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The goal of the this program is to improve the public's awareness of pipeline operations and safety issues through enhanced communications with the various stakeholders including the utilities customers and non-customers location within proximity of under transmission facilities. This expense focuses this effort on the following audience: Research department in customer data collection and analysis.

2011	0	34	0	34	0.0	1-Sided Adj
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PI Confluence, ICAM - Public Awareness module. Public Awareness targeted stakeholder communications tracking system maintenance and licensing fees. (\$40*.85=\$34k for 2010,2011); (\$70kx.85=\$60k for 2012)

2011	68	0	0	68	0.0	1-Sided Adj
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To handle the increased requirements of stakeholder communications including program management and coordination, tracking communications, evaluating program effectiveness. Additional 0.85 FTE to support ongoing program management activities associated with the Public Awareness program. \$68k salary (\$80k x 85% = \$68k)

2011	0	0	0	0	0.9	1-Sided Adj
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To handle the increased requirements of stakeholder communications including program management and coordination, tracking communications, evaluating program effectiveness. Additional 0.85 FTE to support ongoing program management activities associated with the Public Awareness program.

2011	0	128	0	128	0.0	1-Sided Adj
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Mandated effectiveness surveys due in 2011. Will require approx \$434k in NL to be able to perform. (\$434k-\$325k baseline 2009 = \$128k incremental)

2011	0	4	0	4	0.0	1-Sided Adj
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To handle the increased requirements of stakeholder communications including program management and coordination, tracking communications, evaluating program effectiveness. Non labor funding for miscellaneous expenses for new FTE. Included are mileage, cell phone, incidentals.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Public Awareness
 Category-Sub: 1. Public Awareness
 Workpaper: 2EN003.000 - Public Awareness

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011 Total	68	716	0	784	0.9	

2012	0	600	0	600	0.0	1-Sided Adj
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The goal of the this program is to improve the public's awareness of pipeline operations and safety issues through enhanced communications with the various stakeholders including the utilities customers and non-customers location within proximity of under transmission facilities. This expense focuses this effort on the following audience: Residents in Distribution Service Territory, and Residents outside of the Distribuiton Service Territory but still in proximity to transmission lines.

2012	0	60	0	60	0.0	1-Sided Adj
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PI Confluence, ICAM - Public Awareness module. Public Awareness targeted stakeholder communications tracking system maintenance and licensing fees. (\$40*.85=\$34k for 2010,2011); (\$70kx.85=\$60k for 2012)

2012	0	50	0	50	0.0	1-Sided Adj
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The goal of the this program is to improve the public's awareness of pipeline operations and safety issues through enhanced communications with the various stakeholders including the utilities customers and non-customers location within proximity of under transmission facilities. This expense focuses this effort on the following audience: Research department in customer data collection and analysis.

2012	0	30	0	30	0.0	1-Sided Adj
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The goal of the this program is to improve the public's awareness of pipeline operations and safety issues through enhanced communications with the various stakeholders including the utilities customers and non-customers location within proximity of under transmission facilities. This expense focuses this effort on the following audience: Research department in data analysis for non-customers, places of congregation, not within the service territory but along the pipeline right-of-way.

2012	0	30	0	30	0.0	1-Sided Adj
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The goal of the this program is to improve the public's awareness of pipeline operations and safety issues through enhanced communications with the various stakeholders including the utilities customers and non-customers location within proximity of under transmission facilities. This expense focuses this effort on the following audience: Research department in data analysis for non-customers within the Distribution system service territory.

2012	0	10	0	10	0.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Public Awareness
 Category-Sub: 1. Public Awareness
 Workpaper: 2EN003.000 - Public Awareness

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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The goal of the this program is to improve the public's awareness of pipeline operations and safety issues through enhanced communications with the various stakeholders including the utilities customers and non-customers location within proximity of under transmission facilities. This expense focuses this effort on the following audience: Research department in data analysis for residents in proximity to compressor stations and storage fields.

2012	68	0	0	68	0.0	1-Sided Adj
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To handle the increased requirements of stakeholder communications including program management and coordination, tracking communications, evaluating program effectiveness. Additional 0.85 FTE to support ongoing program management activities associated with the Public Awareness program. \$68k salary (\$80k x 85% = \$68k)

2012	0	0	0	0	0.9	1-Sided Adj
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To handle the increased requirements of stakeholder communications including program management and coordination, tracking communications, evaluating program effectiveness. Additional 0.85 FTE to support ongoing program management activities associated with the Public Awareness program.

2012	0	4	0	4	0.0	1-Sided Adj
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To handle the increased requirements of stakeholder communications including program management and coordination, tracking communications, evaluating program effectiveness. Non labor funding for miscellaneous expenses for new FTE. Included are mileage, cell phone, incidentals.

2012 Total	68	784	0	852	0.9	
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Southern California Gas Company
Test Year 2012 GRC - REVISED
Non-Shared Service Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: D. Public Awareness
Category-Sub: 1. Public Awareness
Workpaper: 2EN003.000 - Public Awareness

Determination of Adjusted-Recorded:

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	0	1
Non-Labor	0	284	250	325	306
NSE	0	0	0	0	0
Total	0	284	250	325	307
FTE	0.0	0.0	0.0	0.0	0.0
Adjustments (Nominal \$) **					
Labor	0	15	15	14	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	15	15	14	0
FTE	0.0	0.2	0.2	0.2	0.0
Recorded-Adjusted (Nominal \$)					
Labor	0	15	15	14	1
Non-Labor	0	284	250	325	306
NSE	0	0	0	0	0
Total	0	298	265	339	307
FTE	0.0	0.2	0.2	0.2	0.0
Vacation & Sick (Nominal \$)					
Labor	0	3	3	3	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	3	3	3	0
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2009\$					
Labor	0	2	1	0	0
Non-Labor	0	24	12	-1	0
NSE	0	0	0	0	0
Total	0	25	13	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	0	19	18	17	1
Non-Labor	0	307	263	324	306
NSE	0	0	0	0	0
Total	0	326	281	342	307
FTE	0.0	0.2	0.2	0.2	0.0

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Public Awareness
 Category-Sub: 1. Public Awareness
 Workpaper: 2EN003.000 - Public Awareness

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000)				
	2005	2006	2007	2008	2009
Labor	0	15	15	14	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	15	15	14	0
FTE	0.0	0.2	0.2	0.2	0.0

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006	15	0	0	0.0	CCTR Transf	From 2200-0322.000	TP1RMC2009102 7112220480
Transfer Costs from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.							
2006	0	0	0	0.2	CCTR Transf	From 2200-0322.000	TP1RMC2009102 7112638283
Transfer FTE from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.							
2006 Total	15	0	0	0.2			
2007	15	0	0	0.0	CCTR Transf	From 2200-0322.000	TP1RMC2009102 7112948553
Transfer Costs from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.							
2007	0	0	0	0.2	CCTR Transf	From 2200-0322.000	TP1RMC2009102 7113023163
Transfer FTE from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.							

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Public Awareness
 Category-Sub: 1. Public Awareness
 Workpaper: 2EN003.000 - Public Awareness

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2007 Total	15	0	0	0.2			
2008	14	0	0	0.0	CCTR Transf	From 2200-0322.000	TP1RMC2009102 7113120320
Transfer Costs from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.							
2008	0	0	0	0.2	CCTR Transf	From 2200-0322.000	TP1RMC2009102 7113147053
Transfer FTE from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.							
2008 Total	14	0	0	0.2			
2009 Total	0	0	0	0.0			

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K

Summary of Shared Services Workpapers:

Description	In 2009 \$ (000) "Book Expense"			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
A. General Engineering	8,282	8,882	8,924	9,206
B. Pipeline Integrity	3,216	5,708	5,691	5,700
C. Pipeline Integrity - Distribution IMP	190	189	189	343
D. Pipeline Design & Gas Standards	603	670	670	670
E. USS Billed to CCTR	86	134	134	134
Total	12,377	15,583	15,608	16,053

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Cost Center: VARIOUS

Summary for Category: A. General Engineering

	In 2009\$ (000) "Book Expense"			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
Labor	6,971	7,133	7,343	7,434
Non-Labor	1,311	1,749	1,581	1,772
NSE	0	0	0	0
Total	8,282	8,882	8,924	9,206
FTE	89.5	93.6	96.1	97.1

Cost Centers belonging to this Category:

2200-0300.000 Director of Engineering and Technical Services

Labor	397	378	378	378
Non-Labor	14	13	13	13
NSE	0	0	0	0
Total	411	391	391	391
FTE	3.7	3.7	3.7	3.7

2200-0302.000 Operations Technology Manager

Labor	229	220	220	220
Non-Labor	11	10	10	10
NSE	0	0	0	0
Total	240	230	230	230
FTE	3.1	3.1	3.1	3.1

2200-0306.000 Work Management & Databases

Labor	465	407	407	407
Non-Labor	17	205	17	17
NSE	0	0	0	0
Total	482	612	424	424
FTE	6.9	5.9	5.9	5.9

2200-0307.000 Website/ Database/ Sever Support

Labor	422	451	451	451
Non-Labor	5	6	6	6
NSE	0	0	0	0
Total	427	457	457	457
FTE	7.2	7.2	7.2	7.2

2200-0309.000 Measurement, Regulation, Controls Manager & Special Projects

Labor	366	354	354	354
Non-Labor	114	227	227	227
NSE	0	0	0	0
Total	480	581	581	581
FTE	5.0	4.8	4.8	4.8

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Cost Center: VARIOUS

In 2009\$ (000) "Book Expense"			
Adjusted-Recorded	Adjusted-Forecast		
2009	2010	2011	2012

2200-0310.000 Measurement and Design

Labor	805	804	848	848
Non-Labor	330	269	273	273
NSE	0	0	0	0
Total	1,135	1,073	1,121	1,121
FTE	10.1	10.4	10.9	10.9

2200-0311.000 Measurement Technologies

Labor	662	610	610	610
Non-Labor	83	68	68	68
NSE	0	0	0	0
Total	745	678	678	678
FTE	8.6	7.8	7.8	7.8

2200-0312.000 Measurement Field Support

Labor	711	836	836	836
Non-Labor	151	172	172	172
NSE	0	0	0	0
Total	862	1,008	1,008	1,008
FTE	9.8	11.8	11.8	11.8

2200-0318.000 Engineering Design Manager

Labor	271	287	287	287
Non-Labor	105	141	141	305
NSE	0	0	0	0
Total	376	428	428	592
FTE	3.0	3.2	3.2	3.2

2200-0321.000 Mechanical Design

Labor	274	294	294	294
Non-Labor	18	28	28	28
NSE	0	0	0	0
Total	292	322	322	322
FTE	3.1	3.6	3.6	3.6

2200-0323.000 Planning & Project Development

Labor	539	565	619	673
Non-Labor	60	83	96	107
NSE	0	0	0	0
Total	599	648	715	780
FTE	5.1	5.7	6.2	6.7

2200-0799.000 Instrument Repair & Field Maintenance Supervision

Labor	448	476	476	476
Non-Labor	244	293	293	293
NSE	0	0	0	0
Total	692	769	769	769
FTE	6.4	7.6	7.6	7.6

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Cost Center: VARIOUS

In 2009\$ (000) "Book Expense"			
Adjusted-Recorded	Adjusted-Forecast		
2009	2010	2011	2012

2200-1178.000 EAC Chemical Section

Labor	1,008	1,049	1,161	1,198
Non-Labor	150	210	226	242
NSE	0	0	0	0
Total	1,158	1,259	1,387	1,440
FTE	12.5	13.4	14.9	15.4

2200-2248.000 Measurement & Regulation Standards, Materials, BTU Districts

Labor	374	402	402	402
Non-Labor	9	24	11	11
NSE	0	0	0	0
Total	383	426	413	413
FTE	5.0	5.4	5.4	5.4

Beginning of Workpaper
2200-0300.000 - Director of Engineering and Technical Services

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0300.000 - Director of Engineering and Technical Services

Activity Description:

This cost center captures the activities and expenses associated with the Director of Gas Engineering and the organizations' administrative and financial support functions. Expenses are typically for gas transmission, underground storage, and gas distribution-related engineering services and associated costs.

Forecast Methodology:

Labor - 5-YR Average

The labor expense requirements for this cost center have been consistent over recorded historical data. This trend is expected to continue. As such the 5 year average methodology was chosen as best representing the future expense requirements.

Non-Labor - 5-YR Average

The non labor expense requirements for this cost center have been consistent over recorded historical data. This trend is expected to continue. As such the 5 year average methodology was chosen as best representing the future expense requirements.

NSE - 5-YR Average

There are no Non-Standard Escalation expenses in this cost center.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 1. Engineering Design
 Cost Center: 2200-0300.000 - Director of Engineering and Technical Services

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		411	429	419	394	421	413	413	413
Non-Labor		16	18	12	10	15	14	14	14
NSE		0	0	0	0	0	0	0	0
Total		427	447	431	404	436	427	427	427
FTE		3.8	3.7	3.8	3.4	3.7	3.7	3.7	3.7
		Allocations Out							
Labor		17	58	52	29	24	35	35	35
Non-Labor		0	1	1	0	1	1	1	1
NSE		0	0	0	0	0	0	0	0
Total		17	59	53	29	25	36	36	36
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		394	371	367	365	397	378	378	378
Non-Labor		16	17	11	10	14	13	13	13
NSE		0	0	0	0	0	0	0	0
Total		410	388	378	375	411	391	391	391
FTE		3.8	3.3	3.4	3.3	3.7	3.5	3.5	3.5
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		394	371	367	365	397	378	378	378
Non-Labor		16	17	11	10	14	13	13	13
NSE		0	0	0	0	0	0	0	0
Total		410	388	378	375	411	391	391	391
FTE		3.8	3.3	3.4	3.3	3.7	3.5	3.5	3.5

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 1. Engineering Design
 Cost Center: 2200-0300.000 - Director of Engineering and Technical Services

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	23	0	0	23	0.20
Directly Allocated	5	0	0	5	0.00	18	0	0	18	0.00
Subj. To % Alloc.	416	15	0	431	3.70	372	14	0	386	3.30
% Allocation										
Retained	95.42%	95.41%				95.38%	95.38%			
SEU	4.58%	4.59%				4.62%	4.62%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	397	14	0	411		355	13	0	368	
SEU	19	1	0	20		17	1	0	18	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	421	15	0	436	3.70	413	14	0	427	3.50
Total Alloc. Out	24	1	0	25		35	1	0	36	
Total Retained	397	14	0	411		378	13	0	391	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	397	14	0	411		378	13	0	391	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	23	0	0	23	0.20	23	0	0	23	0.20
Directly Allocated	18	0	0	18	0.00	18	0	0	18	0.00
Subj. To % Alloc.	372	14	0	386	3.30	372	14	0	386	3.30
% Allocation										
Retained	95.38%	95.38%				95.38%	95.38%			
SEU	4.62%	4.62%				4.62%	4.62%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	355	13	0	368		355	13	0	368	
SEU	17	1	0	18		17	1	0	18	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	413	14	0	427	3.50	413	14	0	427	3.50
Total Alloc. Out	35	1	0	36		35	1	0	36	
Total Retained	378	13	0	391		378	13	0	391	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	378	13	0	391		378	13	0	391	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0300.000 - Director of Engineering and Technical Services

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

This Cost Center is for the Director of Gas Eng and administrative and financial support. The Shared Services % is calculated based on the data from all its Cost Centers other than the one for the Director and his administrative support (2200-0300). The Shared Services percentage for 2200-0300 is calculated as the ratio between Gas Eng labor dollars and the actual dollars earmarked for Shared Service allocation. In this case, the assumption is that if dollars to be allocated are 4.96% of all of labor the dollars expended, then 4.96% is the appropriate figure for the supervision, financial and administrative support of those dollars. (Total Labor dollars subject to allocation for all Gas Eng Cost Centers is estimated at \$23,676,907. Total \$s estimated for allocation for 2009 based on methodology developed and applied to each individual Cost Center in Gas Eng is \$1,173,859. $1173859/23676907=.0495782$, or 4.96%). This 4.96% is then applied to the salaries of the three employees providing support to the utility allocation. Salaries total \$295K ($295000*.0496=14632$). The percentage of the organizational budget is then calculated as $14632/318460=.0459461$, or 4.59%.

Cost Center Allocation Percentage for 2010

This Cost Center is for the Director of Gas Eng and administrative and financial support. The Shared Services % is calculated based on the data from all its Cost Centers other than the one for the Director and his administrative support (2200-0300). The Shared Services percentage for 2200-0300 is calculated as the ratio between total Gas Eng labor dollars and the actual dollars earmarked for Shared Service allocation. In this case, the assumption is that if dollars to be allocated are 5.55% of all of labor the dollars expended, then 5.55% is the appropriate figure for the supervision, financial and administrative support of those dollars. (Total Labor dollars subject to allocation for all Gas Eng Cost Centers is estimated at \$25,475,927. Total \$s estimated for allocation for 2010 based on methodology developed and applied to each individual Cost Center in Gas Eng is \$1,413,573.81. $1413573.81/25475927=.055486649$, or 5.55%). This 5.55% is then applied to the salaries of the three employees providing support to the utility allocation. Salaries total \$303,850K ($303850*.055486649=16859.6183$). The percentage of the organizational budget is then calculated as $16859.6183/365204=.046164933$, or 4.62%.

Cost Center Allocation Percentage for 2011

This Cost Center is for the Director of Gas Eng and administrative and financial support. The Shared Services % is calculated based on the data from all its Cost Centers other than the one for the Director and his administrative support (2200-0300). The Shared Services percentage for 2200-0300 is calculated as the ratio between total Gas Eng labor dollars and the actual dollars earmarked for Shared Service allocation. In this case, the assumption is that if dollars to be allocated are 5.55% of all of labor the dollars expended, then 5.55% is the appropriate figure for the supervision, financial and administrative support of those dollars. (Total Labor dollars subject to allocation for all Gas Eng Cost Centers is estimated at \$25,475,927. Total \$s estimated for allocation for 2010 based on methodology developed and applied to each individual Cost Center in Gas Eng is \$1,413,573.81. $1413573.81/25475927=.055486649$, or 5.55%). This 5.55% is then applied to the salaries of the three employees providing support to the utility allocation. Salaries total \$303,850K ($303850*.055486649=16859.6183$). The percentage of the organizational budget is then calculated as $16859.6183/365204=.046164933$, or 4.62%.

Cost Center Allocation Percentage for 2012

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0300.000 - Director of Engineering and Technical Services

This Cost Center is for the Director of Gas Eng and administrative and financial support. The Shared Services % is calculated based on the data from all its Cost Centers other than the one for the Director and his administrative support (2200-0300). The Shared Services percentage for 2200-0300 is calculated as the ratio between total Gas Eng labor dollars and the actual dollars earmarked for Shared Service allocation. In this case, the assumption is that if dollars to be allocated are 5.55% of all of labor the dollars expended, then 5.55% is the appropriate figure for the supervision, financial and administrative support of those dollars. (Total Labor dollars subject to allocation for all Gas Eng Cost Centers is estimated at \$25,475,927. Total \$s estimated for allocation for 2010 based on methodology developed and applied to each individual Cost Center in Gas Eng is \$1,413,573.81. $1413573.81/25475927=.055486649$, or 5.55%). This 5.55% is then applied to the salaries of the three employees providing support to the utility allocation. Salaries total \$303,850K ($303850*.055486649=16859.6183$). The percentage of the organizational budget is then calculated as $16859.6183/365204=.046164933$, or 4.62%.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 1. Engineering Design
 Cost Center: 2200-0300.000 - Director of Engineering and Technical Services

Forecast Summary:

Forecast Method		In 2009 \$(000) "Incurred Costs"								
		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	5-YR Average	413	413	413	0	0	0	413	413	413
Non-Labor	5-YR Average	14	14	14	0	0	0	14	14	14
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		427	427	427	0	0	0	427	427	427
FTE	5-YR Average	3.7	3.7	3.7	0.0	0.0	0.0	3.7	3.7	3.7

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0300.000 - Director of Engineering and Technical Services

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	313	334	338	325	357
Non-Labor	645	185	12	10	15
NSE	0	0	0	0	0
Total	958	518	349	335	371
FTE	3.2	3.2	3.2	2.9	3.2
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	-632	-168	0	0	0
NSE	0	0	0	0	0
Total	-632	-168	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	313	334	338	325	357
Non-Labor	14	17	12	10	15
NSE	0	0	0	0	0
Total	327	351	349	335	371
FTE	3.2	3.1	3.2	2.9	3.1
Vacation & Sick (Nominal \$)					
Labor	53	60	59	63	64
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	53	60	59	63	64
FTE	0.6	0.6	0.6	0.5	0.6
Escalation to 2009\$					
Labor	46	35	22	6	0
Non-Labor	2	2	1	0	0
NSE	0	0	0	0	0
Total	47	37	23	6	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	412	429	419	394	421
Non-Labor	15	18	12	10	15
NSE	0	0	0	0	0
Total	427	447	431	403	436
FTE	3.8	3.7	3.8	3.4	3.7

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0300.000 - Director of Engineering and Technical Services

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
Labor	0	0	0	0	0
Non-Labor	-632	-168	0	0	0
NSE	0	0	0	0	0
Total	-632	-168	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005	0	554	0	0.0	1-Sided Adj	N/A	TP1RMC2009100 7120528793
Accounting correction adjustment, reversal of 2/15/2005 accrual posting error.							
2005	0	-600	0	0.0	1-Sided Adj	N/A	TP1RMC2009100 7120734500
Accounting correction, reversal of 12/29/2005 cost posting error.							
2005	0	-585	0	0.0	CCTR Transf	To 2200-2170.000	TP1RMC2009100 7121024673
Transfer of DOT pipeline safety fee expense. (CE 623820)							
2005 Total	0	-632	0	0.0			
2006	0	168	0	0.0	CCTR Transf	To 2200-2170.000	TP1RMC2009091 8144154873
"Delete this entry from final workpaper" Correction to erroneous entry. Intending to nullify the initial \$167,715 adjustment.							
2006	0	600	0	0.0	1-Sided Adj	N/A	TP1RMC2009100 7123500373
Accounting correction, reversal of 2/1/2006 accrual posting error.							
2006	0	-161	0	0.0	1-Sided Adj	N/A	TP1RMC2009100 7123630127
Accounting correction, reversal of 12/1/2006 cost posting error.							
2006	0	-607	0	0.0	CCTR Transf	To 2200-2170.000	TP1RMC2009100 7123728597
Transfer of DOT pipeline safety fee expense.							

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 1. Engineering Design
 Cost Center: 2200-0300.000 - Director of Engineering and Technical Services

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2006	0	-168	0	0.0	1-Sided Adj	N/A	TP1RMC2010043 0142758393

One time expense for consultant work. Not expexted to continue in future years.

2006 Total	0	-168	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-0318.000 - Engineering Design Manager

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0318.000 - Engineering Design Manager

Activity Description:

This cost center has administrative, managerial and budgetary oversight over the following engineering activities; pipeline engineering; development of gas standards and design; and public awareness. Personnel consist of Department Manager, Project Manager, and Administrative Support individual.

Forecast Methodology:

Labor - 5-YR Average

The 5 year average serves as the best indication of the ongoing requirements for this organization. Historical data indicate that activities and staffing levels have been transient, driven by unforeseen requests. This trend is expected to continue so the best estimate for future requirements is the five year average.

Non-Labor - 5-YR Average

The 5 year average serves as the best indication of the ongoing requirements for this organization. Historical data indicate that activities and staffing levels have been transient, driven by unforeseen requests. This trend is expected to continue so the best estimate for future requirements is the five year average.

NSE - 5-YR Average

There are no Non-Standard Escalation expenses associated with this cost center.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 1. Engineering Design
 Cost Center: 2200-0318.000 - Engineering Design Manager

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		223	348	379	264	280	297	297	297
Non-Labor		120	195	179	134	109	146	146	316
NSE		0	0	0	0	0	0	0	0
Total		343	543	558	398	389	443	443	613
FTE		2.4	3.7	3.9	2.9	3.0	3.2	3.2	3.2
		Allocations Out							
Labor		6	9	12	3	9	10	10	10
Non-Labor		0	5	8	5	4	5	5	11
NSE		0	0	0	0	0	0	0	0
Total		6	14	20	8	13	15	15	21
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		217	339	367	261	271	287	287	287
Non-Labor		120	190	171	129	105	141	141	305
NSE		0	0	0	0	0	0	0	0
Total		337	529	538	390	376	428	428	592
FTE		2.4	3.7	3.9	2.9	3.0	3.2	3.2	3.2
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		217	339	367	261	271	287	287	287
Non-Labor		120	190	171	129	105	141	141	305
NSE		0	0	0	0	0	0	0	0
Total		337	529	538	390	376	428	428	592
FTE		2.4	3.7	3.9	2.9	3.0	3.2	3.2	3.2

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0318.000 - Engineering Design Manager

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	1	18	0	19	0.00
Directly Allocated	0	0	0	0	0.00	0	1	0	1	0.00
Subj. To % Alloc.	280	109	0	389	3.00	296	127	0	423	3.20
% Allocation										
Retained	96.70%	96.71%				96.48%	96.48%			
SEU	3.30%	3.29%				3.52%	3.52%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	271	105	0	376		286	123	0	409	
SEU	9	4	0	13		10	4	0	14	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	280	109	0	389	3.00	297	146	0	443	3.20
Total Alloc. Out	9	4	0	13		10	5	0	15	
Total Retained	271	105	0	376		287	141	0	428	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	271	105	0	376		287	141	0	428	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	1	18	0	19	0.00	1	18	0	19	0.00
Directly Allocated	0	1	0	1	0.00	0	1	0	1	0.00
Subj. To % Alloc.	296	127	0	423	3.20	296	297	0	593	3.20
% Allocation										
Retained	96.48%	96.48%				96.48%	96.48%			
SEU	3.52%	3.52%				3.52%	3.52%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	286	123	0	409		286	287	0	573	
SEU	10	4	0	14		10	10	0	20	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	297	146	0	443	3.20	297	316	0	613	3.20
Total Alloc. Out	10	5	0	15		10	11	0	21	
Total Retained	287	141	0	428		287	305	0	592	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	287	141	0	428		287	305	0	592	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0318.000 - Engineering Design Manager

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

This is a Cost Center that covers labor expenses for a manager, administrative assistant, and Project Manager for pipeline design and gas standards for both utilities (which is based on total miles of pipe and the ratio of this pipe assigned to each utility for Cost Centers 2100-3563 and 2200-0322 and a ratio of engine/compressor Horse Power for Cost Center 2200-0321). A portion of the labor for the Manager and administrator (40% each) and all of the Project Manager's time (a total of \$165,600 Labor \$'s) are reallocated based on the amount of time spent supporting Shared activities. 5.989645% of the entire departmental expenses (not counting the \$165.6K labor) is subject to reallocation. (Total budget= $2618392-165600=2452792$. Of this \$2,618,392 a total of \$146,914 is subject to reallocation. $146914/2452792=.05989645$ or 6%. Therefore, reallocation for the labor costs for the Manager and Admin are $165600*.06$, or 9936. $9936/301460=.032959$, or 3.3%)

Cost Center Allocation Percentage for 2010

This is a Cost Center that includes labor expenses for a manager, administrative assistant, and Project Manager for pipeline design and gas standards for both utilities (which is based on total miles of pipe and the ratio of this pipe assigned to each utility for Cost Centers 2100-3563 and 2200-0322 and a ratio of engine/compressor Horse Power for Cost Center 2200-0321). Labor for the Manager, administrator, and Project Manager total of \$245,000. The Shared Services percentage for 2200-0318 is calculated as the ratio between total Engineering Design labor dollars and the actual dollars earmarked for Shared Service allocation. In this case, the assumption is that if dollars to be allocated are 4.02% of all of labor the dollars expended, then 4.02% is the appropriate figure for the supervision, administrative and project engineering support of those dollars. (Total Labor dollars subject to allocation for all Engineering Design Cost Centers is estimated at \$108,247.63. Total \$s estimated for allocation for 2010 based on methodology developed and applied to each individual Cost Center is \$2,691,373.52. $108247.63/2691373.52=.04022022$, or 4.02%). This 4.02% is then applied to the salaries of the three employees providing support to the utility allocation. Salaries total \$245K ($245000*.0402=9853.95$). The percentage of the organizational budget is then calculated as $9853.95/280006=.035191924$, or 3.52%.

Cost Center Allocation Percentage for 2011

This is a Cost Center that includes labor expenses for a manager, administrative assistant, and Project Manager for pipeline design and gas standards for both utilities (which is based on total miles of pipe and the ratio of this pipe assigned to each utility for Cost Centers 2100-3563 and 2200-0322 and a ratio of engine/compressor Horse Power for Cost Center 2200-0321). Labor for the Manager, administrator, and Project Manager total of \$245,000. The Shared Services percentage for 2200-0318 is calculated as the ratio between total Engineering Design labor dollars and the actual dollars earmarked for Shared Service allocation. In this case, the assumption is that if dollars to be allocated are 4.02% of all of labor the dollars expended, then 4.02% is the appropriate figure for the supervision, administrative and project engineering support of those dollars. (Total Labor dollars subject to allocation for all Engineering Design Cost Centers is estimated at \$108,247.63. Total \$s estimated for allocation for 2010 based on methodology developed and applied to each individual Cost Center is \$2,691,373.52. $108247.63/2691373.52=.04022022$, or 4.02%). This 4.02% is then applied to the salaries of the three employees providing support to the utility allocation. Salaries total \$245K ($245000*.0402=9853.95$). The percentage of the organizational budget is then calculated as $9853.95/280006=.035191924$, or 3.52%.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0318.000 - Engineering Design Manager

Cost Center Allocation Percentage for 2012

This is a Cost Center that includes labor expenses for a manager, administrative assistant, and Project Manager for pipeline design and gas standards for both utilities (which is based on total miles of pipe and the ratio of this pipe assigned to each utility for Cost Centers 2100-3563 and 2200-0322 and a ratio of engine/compressor Horse Power for Cost Center 2200-0321). Labor for the Manager, administrator, and Project Manager total of \$245,000. The Shared Services percentage for 2200-0318 is calculated as the ratio between total Engineering Design labor dollars and the actual dollars earmarked for Shared Service allocation. In this case, the assumption is that if dollars to be allocated are 4.02% of all of labor the dollars expended, then 4.02% is the appropriate figure for the supervision, administrative and project engineering support of those dollars. (Total Labor dollars subject to allocation for all Engineering Design Cost Centers is estimated at \$108,247.63. Total \$s estimated for allocation for 2010 based on methodology developed and applied to each individual Cost Center is \$2,691,373.52. $108247.63/2691373.52=.04022022$, or 4.02%). This 4.02% is then applied to the salaries of the three employees providing support to the utility allocation. Salaries total \$245K ($245000*.0402=9853.95$). The percentage of the organizational budget is then calculated as $9853.95/280006=.035191924$, or 3.52%.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 1. Engineering Design
 Cost Center: 2200-0318.000 - Engineering Design Manager

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	5-YR Average	297	297	297	0	0	0	297	297	297
Non-Labor	5-YR Average	146	146	146	0	0	170	146	146	316
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		443	443	443	0	0	170	443	443	613
FTE	5-YR Average	3.2	3.2	3.2	0.0	0.0	0.0	3.2	3.2	3.2

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012	0	170	0	170	0.0	1-Sided Adj
Incremental resources to develop tools allowing for the integration of data from earthquake threat identification assessments into the GIS. See Supplemental workpaper 2200-0318.000_Supp1.pdf for additional project details.						
2012 Total	0	170	0	170	0.0	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0318.000 - Engineering Design Manager

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	169	271	305	218	237
Non-Labor	107	179	169	131	109
NSE	0	0	0	0	0
Total	276	450	475	349	347
FTE	2.1	3.1	3.4	2.4	2.5
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	169	271	305	218	237
Non-Labor	107	179	169	131	109
NSE	0	0	0	0	0
Total	276	450	475	349	347
FTE	2.0	3.1	3.3	2.4	2.5
Vacation & Sick (Nominal \$)					
Labor	29	48	53	42	43
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	29	48	53	42	43
FTE	0.4	0.6	0.6	0.5	0.5
Escalation to 2009\$					
Labor	25	28	20	4	0
Non-Labor	13	16	10	2	0
NSE	0	0	0	0	0
Total	38	44	30	6	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	223	347	379	264	280
Non-Labor	120	195	179	133	109
NSE	0	0	0	0	0
Total	343	542	558	397	390
FTE	2.4	3.7	3.9	2.9	3.0

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 1. Engineering Design
 Cost Center: 2200-0318.000 - Engineering Design Manager

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Supplemental Workpapers for Workpaper 2200-0318.000

Gas Engineering – Witness, Raymond K. Stanford

Supplemental Workpaper in support of the Geologic and Seismic Hazard Assessment Program

Business Purpose

The purpose of this ongoing program is to continue the assessment and monitoring of geologic and seismic hazards along transmission lines and distribution supply lines and within underground gas storage fields. These hazards, including fault ruptures, earthquake-induced liquefaction and landslides, must be identified and understood in order to mitigate their potential adverse effects on the gas infrastructure. Mitigation of these potential hazards will help ensure public safety and service reliability.

Physical Description

This program will utilize the services of companies specializing in aerial and spatial earth surface imaging and geologic and geotechnical engineering. These services will be used to 1) identify where transmission lines and distribution supply lines cross areas subject to ground deformation from geologic and seismic hazards, 2) develop cost-effective strategies for prioritizing areas that require more detailed evaluation to characterize the hazard, and 3) provide recommendations for cost-effective mitigation options. As part of this program, SoCalGas will continue its hazard assessment and mitigation efforts at Aliso Canyon Gas Storage Field.

Project Justification

SoCalGas transmission line and distribution supply line systems must cross areas subject to ground deformation from geologic and seismic events. Geologic and seismic hazards of fault rupture, liquefaction, and land sliding are common to southern California, and mitigating these hazards by avoidance is simply not an option in many areas. In addition, much of the SoCalGas transmission line and distribution supply line systems were installed prior to the modern understanding of the distribution and severity of these types of hazards. Therefore, a more complete understanding of the areas subject to these hazards is sought. The geologic and seismic hazard assessment program began in the early 1990s and the work completed to date has been funded under the Engineering Design Department budget at a rate between \$40K and \$125K per year. The proposed increase in funding of \$200K per year is due to the implementation of new technologies to better identify and monitor hazards that would otherwise go undetected.

Cost estimate calculations

The total annual cost for this program, beginning in 2011 and ending in 2013, is \$170K (contract labor).

Beginning of Workpaper
2200-0321.000 - Mechanical Design

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0321.000 - Mechanical Design

Activity Description:

The Mechanical Design engineering group provides technical expertise in the development and implementation of mechanical engineering strategies and designs related to transmission and storage facilities, including compressor stations, instrument air systems, exhaust systems, pressure vessels, field piping, fire protection systems, and gas processing facilities.

Forecast Methodology:

Labor - 5-YR Average

As the foundation for future labor expense requirements, the 5 year average was chosen. The nature of work performed by the Mechanical Design department, has proven to be consistent over time as evident by historical data. It is predicted that the current activity levels and program support functions will be sustained moving forward. As such, the 5 year average would sufficiently meet the future funding requirements.

Non-Labor - 5-YR Average

As the foundation for future non labor expense requirements, the 5 year average was chosen. The nature of work performed by the Mechanical Design department, has proven to be consistent over time as evident by historical data. It is predicted that the current activity levels and program support functions will be sustained moving forward. As such, the 5 year average would sufficiently meet the future funding requirements.

NSE - 5-YR Average

There are no non-standard escalation expenses associated with this cost center.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0321.000 - Mechanical Design

Summary of Results:

Years	In 2009\$ (000)							
	Adjusted-Recorded					Adjusted-Forecast		
	2005	2006	2007	2008	2009	2010	2011	2012
Total Incurred (100% Level)								
Labor	464	272	223	278	279	301	301	301
Non-Labor	71	28	14	17	18	28	28	28
NSE	0	0	0	0	0	0	0	0
Total	535	300	237	295	297	329	329	329
FTE	5.7	3.3	2.6	3.4	3.1	3.6	3.6	3.6
Allocations Out								
Labor	43	8	0	0	5	7	7	7
Non-Labor	10	1	0	0	0	0	0	0
NSE	0	0	0	0	0	0	0	0
Total	53	9	0	0	5	7	7	7
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Retained								
Labor	421	264	223	278	274	294	294	294
Non-Labor	61	27	14	17	18	28	28	28
NSE	0	0	0	0	0	0	0	0
Total	482	291	237	295	292	322	322	322
FTE	5.6	3.2	2.6	3.4	3.1	3.6	3.6	3.6
Allocations In								
Labor	0	0	0	0	0	0	0	0
Non-Labor	0	0	0	0	0	0	0	0
NSE	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Book Expense								
Labor	421	264	223	278	274	294	294	294
Non-Labor	61	27	14	17	18	28	28	28
NSE	0	0	0	0	0	0	0	0
Total	482	291	237	295	292	322	322	322
FTE	5.6	3.2	2.6	3.4	3.1	3.6	3.6	3.6

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0321.000 - Mechanical Design

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	32	0	0	32	0.40
Directly Allocated	0	0	0	0	0.00	2	0	0	2	0.00
Subj. To % Alloc.	279	18	0	297	3.10	267	28	0	295	3.20
% Allocation										
Retained	98.31%	98.30%				98.30%	98.30%			
SEU	1.69%	1.70%				1.70%	1.70%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	274	18	0	292		262	28	0	290	
SEU	5	0	0	5		5	0	0	5	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	279	18	0	297	3.10	301	28	0	329	3.60
Total Alloc. Out	5	0	0	5		7	0	0	7	
Total Retained	274	18	0	292		294	28	0	322	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	274	18	0	292		294	28	0	322	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	32	0	0	32	0.40	32	0	0	32	0.40
Directly Allocated	2	0	0	2	0.00	2	0	0	2	0.00
Subj. To % Alloc.	267	28	0	295	3.20	267	28	0	295	3.20
% Allocation										
Retained	98.30%	98.30%				98.30%	98.30%			
SEU	1.70%	1.70%				1.70%	1.70%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	262	28	0	290		262	28	0	290	
SEU	5	0	0	5		5	0	0	5	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	301	28	0	329	3.60	301	28	0	329	3.60
Total Alloc. Out	7	0	0	7		7	0	0	7	
Total Retained	294	28	0	322		294	28	0	322	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	294	28	0	322		294	28	0	322	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0321.000 - Mechanical Design

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Department activities are estimated at 75% support for SoCal Gas Storage and 25% SoCal Gas and SDG&E Transmission. Of the 25% Transmission support, services to be provided and departmental expenditures to be incurred on behalf of SDG&E are based on an analysis of the compressors and engines in each utility. This compressor/engine data shows a total of 212,762 Horsepower (HP) for SoCal Gas and 15,485 HP for SDG&E for a total of 228,247 HP. The ratio of the two utilities HP is then 93.22:6.78 respectively. ($212762/228247=.9322$ and $15485/228247=.0678$). The percentage of the organizational budget is then calculated as 6.78% of 25% of the total anticipated expenditure $.0678*.25=.01695$, or 1.7%.

Cost Center Allocation Percentage for 2010

Department activities are estimated at 75% support for SoCal Gas Storage and 25% SoCal Gas and SDG&E Transmission. Of the 25% Transmission support, services to be provided and departmental expenditures to be incurred on behalf of SDG&E are based on an analysis of the compressors and engines in each utility. This compressor/engine data shows a total of 212,762 Horsepower (HP) for SoCal Gas and 15,485 HP for SDG&E for a total of 228,247 HP. The ratio of the two utilities HP is then 93.22:6.78 respectively. ($212762/228247=.9322$ and $15485/228247=.0678$). The percentage of the organizational budget is then calculated as 6.78% of 25% of the total anticipated expenditure $.0678*.25=.01695$, or 1.7%.

Cost Center Allocation Percentage for 2011

Department activities are estimated at 75% support for SoCal Gas Storage and 25% SoCal Gas and SDG&E Transmission. Of the 25% Transmission support, services to be provided and departmental expenditures to be incurred on behalf of SDG&E are based on an analysis of the compressors and engines in each utility. This compressor/engine data shows a total of 212,762 Horsepower (HP) for SoCal Gas and 15,485 HP for SDG&E for a total of 228,247 HP. The ratio of the two utilities HP is then 93.22:6.78 respectively. ($212762/228247=.9322$ and $15485/228247=.0678$). The percentage of the organizational budget is then calculated as 6.78% of 25% of the total anticipated expenditure $.0678*.25=.01695$, or 1.7%.

Cost Center Allocation Percentage for 2012

Department activities are estimated at 75% support for SoCal Gas Storage and 25% SoCal Gas and SDG&E Transmission. Of the 25% Transmission support, services to be provided and departmental expenditures to be incurred on behalf of SDG&E are based on an analysis of the compressors and engines in each utility. This compressor/engine data shows a total of 212,762 Horsepower (HP) for SoCal Gas and 15,485 HP for SDG&E for a total of 228,247 HP. The ratio of the two utilities HP is then 93.22:6.78 respectively. ($212762/228247=.9322$ and $15485/228247=.0678$). The percentage of the organizational budget is then calculated as 6.78% of 25% of the total anticipated expenditure $.0678*.25=.01695$, or 1.7%.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 1. Engineering Design
 Cost Center: 2200-0321.000 - Mechanical Design

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	5-YR Average	301	301	301	0	0	0	301	301	301
Non-Labor	5-YR Average	28	28	28	0	0	0	28	28	28
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		329	329	329	0	0	0	329	329	329
FTE	5-YR Average	3.6	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 1. Engineering Design
Cost Center: 2200-0321.000 - Mechanical Design

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	353	212	180	229	237
Non-Labor	63	25	13	17	18
NSE	0	0	0	0	0
Total	415	238	193	246	254
FTE	4.7	2.8	2.2	2.8	2.6
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	353	212	180	229	237
Non-Labor	63	25	13	17	18
NSE	0	0	0	0	0
Total	415	238	193	246	254
FTE	4.8	2.8	2.2	2.8	2.6
Vacation & Sick (Nominal \$)					
Labor	60	38	31	44	43
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	60	38	31	44	43
FTE	0.9	0.5	0.4	0.6	0.5
Escalation to 2009\$					
Labor	51	22	12	4	0
Non-Labor	8	2	1	0	0
NSE	0	0	0	0	0
Total	59	25	13	4	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	464	273	223	278	279
Non-Labor	71	28	14	17	18
NSE	0	0	0	0	0
Total	535	300	237	295	297
FTE	5.7	3.3	2.6	3.4	3.1

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 1. Engineering Design
 Cost Center: 2200-0321.000 - Mechanical Design

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-0309.000 - Measurement, Regulation, Controls Manager & Special Projects

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0309.000 - Measurement, Regulation, Controls Manager & Special Projects

Activity Description:

This cost center provides the general management and all administrative support for approximately 72 employees performing work in shared cost centers 2200-0310, 2200-0311, 2200-0312, 2200-2248, 2200-0799; and for similar support of non-shared cost center 2200-2265. The shared cost centers are for engineering policy, design, material selection, testing and field support related to measurement, gas regulation, automated control systems for pipelines and compressor stations and other instrumentation for both SoCalGas and SDG&E. Expenses are typically for transmission and gas distribution-related engineering services and associated costs.

Forecast Methodology:

Labor - 5-YR Average

The 5-yr average expenditures of \$372K for labor is appropriate to provide for this cost center as it provides longer period to evaluate yearly fluctuation in contactor use and employee periodic assignment on capital projects, which results in reduced or deferred O&C work. All subordinate cost centers to cc 2200-0309 are also forecast on 5-year average as basis.

Non-Labor - 5-YR Average

The 5-yr average expenditures of \$372K for labor is appropriate to provide for this cost center as it provides longer period to evaluate yearly fluctuation in contactor use and employee periodic assignment on capital projects, which results in reduced or deferred O&C work. All subordinate cost centers to cc 2200-0309 are also forecast on 5-year average as basis.

NSE - 5-YR Average

There are no Non-Standard Escalation expenses in this cost center.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0309.000 - Measurement, Regulation, Controls Manager & Special Projects

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		378	341	345	373	427	411	411	411
Non-Labor		287	300	313	279	138	266	266	266
NSE		0	0	0	0	0	0	0	0
Total		665	641	658	652	565	677	677	677
FTE		4.2	3.8	4.0	4.7	5.0	4.8	4.8	4.8
		Allocations Out							
Labor		49	47	47	49	61	57	57	57
Non-Labor		38	40	41	42	24	39	39	39
NSE		0	0	0	0	0	0	0	0
Total		87	87	88	91	85	96	96	96
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		329	294	298	324	366	354	354	354
Non-Labor		249	260	272	237	114	227	227	227
NSE		0	0	0	0	0	0	0	0
Total		578	554	570	561	480	581	581	581
FTE		4.2	3.8	4.0	4.7	5.0	4.8	4.8	4.8
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		329	294	298	324	366	354	354	354
Non-Labor		249	260	272	237	114	227	227	227
NSE		0	0	0	0	0	0	0	0
Total		578	554	570	561	480	581	581	581
FTE		4.2	3.8	4.0	4.7	5.0	4.8	4.8	4.8

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0309.000 - Measurement, Regulation, Controls Manager & Special Projects

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	7	0	0	7	0.00	3	3	0	6	0.00
Directly Allocated	7	7	0	14	0.00	2	3	0	5	0.00
Subj. To % Alloc.	413	131	0	544	5.00	406	260	0	666	4.80
% Allocation										
Retained	87.01%	87.00%				86.45%	86.45%			
SEU	12.99%	13.00%				13.55%	13.55%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	359	114	0	473		351	224	0	575	
SEU	54	17	0	71		55	36	0	91	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	427	138	0	565	5.00	411	266	0	677	4.80
Total Alloc. Out	61	24	0	85		57	39	0	96	
Total Retained	366	114	0	480		354	227	0	581	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	366	114	0	480		354	227	0	581	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	3	0	6	0.00	3	3	0	6	0.00
Directly Allocated	2	3	0	5	0.00	2	3	0	5	0.00
Subj. To % Alloc.	406	260	0	666	4.80	406	260	0	666	4.80
% Allocation										
Retained	86.45%	86.45%				86.45%	86.45%			
SEU	13.55%	13.55%				13.55%	13.55%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	351	224	0	575		351	224	0	575	
SEU	55	36	0	91		55	36	0	91	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	411	266	0	677	4.80	411	266	0	677	4.80
Total Alloc. Out	57	39	0	96		57	39	0	96	
Total Retained	354	227	0	581		354	227	0	581	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	354	227	0	581		354	227	0	581	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0309.000 - Measurement, Regulation, Controls Manager & Special Projects

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,306,098. Total Active meters at SDG&E is 840,529 (13%, 840529/6306098). Total Active meters at SoCal Gas is 5,465,569 (87%, 5465569/6306098).

Cost Center Allocation Percentage for 2010

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813).

Cost Center Allocation Percentage for 2011

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813).

Cost Center Allocation Percentage for 2012

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813).

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0309.000 - Measurement, Regulation, Controls Manager & Special Projects

Forecast Summary:

Forecast Method		In 2009 \$(000) "Incurred Costs"								
		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		2010	2011	2012	2010	2011	2012	2010	2011	2012
Labor	5-YR Average	371	371	371	40	40	40	411	411	411
Non-Labor	5-YR Average	262	262	262	4	4	4	266	266	266
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		633	633	633	44	44	44	677	677	677
FTE	5-YR Average	4.3	4.3	4.3	0.5	0.5	0.5	4.8	4.8	4.8

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	40	0	0	40	0.0	1-Sided Adj

Transfer \$40,000 labor from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning is now a shared service activity provided to both utilities. This transfer of resources reflects that change.

2010	0	4	0	4	0.0	1-Sided Adj
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Transfer \$4,000 non-labor from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning is now a shared service activity provided to both utilities. This transfer of resources reflects that change.

2010	0	0	0	0	0.5	1-Sided Adj
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Transfer labor resource from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning is now a shared service activity provided to both utilities. This transfer of resources reflects that change.

2010 Total	40	4	0	44	0.5	
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2011	40	0	0	40	0.0	1-Sided Adj
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Transfer \$40,000 labor from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning is now a shared service activity provided to both utilities. This transfer of resources reflects that change.

2011	0	4	0	4	0.0	1-Sided Adj
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Transfer \$4,000 non-labor from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning is now a shared service activity provided to both utilities. This transfer of resources reflects that change.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0309.000 - Measurement, Regulation, Controls Manager & Special Projects

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	0	0	0	0	0.5	1-Sided Adj

Transfer of personnel from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning is now a shared service activity provided to both utilities. This transfer of resources reflects that change.

2011 Total	40	4	0	44	0.5	
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2012	40	0	0	40	0.0	1-Sided Adj
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Transfer \$40,000 labor from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning is now a shared service activity provided to both utilities. This transfer of resources reflects that change.

2012	0	4	0	4	0.0	1-Sided Adj
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Transfer \$4,000 non-labor from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning is now a shared service activity provided to both utilities. This transfer of resources reflects that change.

2012	0	0	0	0	0.5	1-Sided Adj
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Transfer of personnel from non-shared cc 2200-2265 to shared cc 2200-0309. CNG station planning is now a shared service activity provided to both utilities. This transfer of resources reflects that change.

2012 Total	40	4	0	44	0.5	
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Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0309.000 - Measurement, Regulation, Controls Manager & Special Projects

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	423	479	332	308	361
Non-Labor	261	276	296	275	138
NSE	0	0	0	0	0
Total	683	755	628	583	500
FTE	5.6	6.2	4.4	4.0	4.3
Adjustments (Nominal \$) **					
Labor	-135	-214	-54	0	0
Non-Labor	-6	0	0	0	0
NSE	0	0	0	0	0
Total	-141	-214	-54	0	0
FTE	-2.0	-3.0	-1.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	287	265	278	308	361
Non-Labor	255	276	296	275	138
NSE	0	0	0	0	0
Total	542	541	574	583	500
FTE	3.6	3.2	3.4	3.9	4.2
Vacation & Sick (Nominal \$)					
Labor	49	47	49	59	65
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	49	47	49	59	65
FTE	0.6	0.6	0.6	0.8	0.8
Escalation to 2009\$					
Labor	42	28	18	5	0
Non-Labor	32	25	17	4	0
NSE	0	0	0	0	0
Total	73	52	35	10	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	378	341	345	373	427
Non-Labor	286	301	313	279	138
NSE	0	0	0	0	0
Total	665	641	658	652	565
FTE	4.2	3.8	4.0	4.7	5.0

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0309.000 - Measurement, Regulation, Controls Manager & Special Projects

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
Labor	-135	-214	-54	0	0
Non-Labor	-6	0	0	0	0
NSE	0	0	0	0	0
Total	-141	-214	-54	0	0
FTE	-2.0	-3.0	-1.0	0.0	0.0

Detail of Adjustments to Recorded:

Year/Expl.	Labor	NLbr	NSE	FTE	Adj Type	From CCtr	RefID
2005	-135	0	0	0.0	CCTR Transf	To 2200-2248.000	TPLGL20091112 163325190
Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2005	0	-6	0	0.0	CCTR Transf	To 2200-2248.000	TPLGL20091112 163417737
Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2005	0	0	0	-2.0	CCTR Transf	To 2200-2248.000	TPLGL20091112 163908303
Transfer FTEs for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2005 Total	-135	-6	0	-2.0			

2006	-214	0	0	0.0	CCTR Transf	To 2200-2248.000	TPLGL20091112 164023447
Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0309.000 - Measurement, Regulation, Controls Manager & Special Projects

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2006	0	0	0	-3.0	CCTR Transf	To 2200-2248.000	TPLGL20091112 164105603

Transfer FTEs for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.

2006 Total	-214	0	0	-3.0			
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2007	-54	0	0	0.0	CCTR Transf	To 2200-0312.000	TPLGL20091112 164912537
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Transfer expenditures for Sulfur and Gas Quality activities that were moved to Cost Ctr 2200-312. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.

2007	0	0	0	-1.0	CCTR Transf	To 2200-0312.000	TPLGL20091112 164944567
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Transfer FTEs for Sulfur and Gas Quality activities that were moved to Cost Ctr 2200-312.

2007 Total	-54	0	0	-1.0			
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2008 Total	0	0	0	0.0			
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2009 Total	0	0	0	0.0			
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Beginning of Workpaper
2200-0310.000 - Measurement and Design

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0310.000 - Measurement and Design

Activity Description:

This cost center provides detailed engineering design, planning, policy, equipment standards and consultation to operations related to: large meter and regulator stations, California producer gas facilities, interstate pipeline inter-connects, pressure protection for pipelines and related automated controls. All electrical and control system engineering associated with the design, operation; and the related compliance the safety aspects of large gas handling facilities also reside within this cost center and are contained within the associated cost. These engineering services are provided for both SoCalGas and SDG&E. Design, material specifications and policy are typically managed for gas transmission, storage and gas distribution assets; and supports the operational personnel associated with those entities.

Forecast Methodology:

Labor - 5-YR Average

The 5-yr average expenditures are appropriate to provide for Engineering Measurement and Design activities as it represents and accounts for the fluctuation in activities from year to year. A five-year average + upward pressure is the forecast choice. There is less than 2% difference between three and five year total expense trend for this cost center. An increase in compliance activity is driving the need for an additional \$90,000. This compliance activity is directly attributable to OSHA's Arc Flash requirements.

Non-Labor - 5-YR Average

The 5-year average was chosen due to the nature of the activities performed within this organization. Additional resources are required and included as incremental to the 5-yr average. Arc Flash non-labor is \$10k due to extended travel and expenses associated with this work (extensive site visits throughout SDGE and SCG service territory.) Employee non-labor expense for design employee with normal travel and training: \$5000 per year.

NSE - 5-YR Average

There are no Non-Standard Escalation expenses in this cost center.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0310.000 - Measurement and Design

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		867	910	816	963	903	930	980	980
Non-Labor		300	228	295	285	366	303	308	308
NSE		0	0	0	0	0	0	0	0
Total		1,167	1,138	1,111	1,248	1,269	1,233	1,288	1,288
FTE		9.6	10.1	8.9	10.9	10.1	10.4	10.9	10.9
		Allocations Out							
Labor		98	103	138	135	98	126	132	132
Non-Labor		26	23	33	30	36	34	35	35
NSE		0	0	0	0	0	0	0	0
Total		124	126	171	165	134	160	167	167
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		769	807	678	828	805	804	848	848
Non-Labor		274	205	262	255	330	269	273	273
NSE		0	0	0	0	0	0	0	0
Total		1,043	1,012	940	1,083	1,135	1,073	1,121	1,121
FTE		9.6	10.0	8.3	10.4	10.0	10.2	10.7	10.7
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		769	807	678	828	805	804	848	848
Non-Labor		274	205	262	255	330	269	273	273
NSE		0	0	0	0	0	0	0	0
Total		1,043	1,012	940	1,083	1,135	1,073	1,121	1,121
FTE		9.6	10.0	8.3	10.4	10.0	10.2	10.7	10.7

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0310.000 - Measurement and Design

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	14	1	0	15	0.10	8	3	0	11	0.10
Directly Allocated	11	0	0	11	0.00	24	0	0	24	0.00
Subj. To % Alloc.	878	365	0	1,243	9.90	898	300	0	1,198	10.10
% Allocation										
Retained	90.06%	90.06%				88.57%	88.57%			
SEU	9.94%	9.94%				11.43%	11.43%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	791	329	0	1,120		796	266	0	1,062	
SEU	87	36	0	123		102	34	0	136	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	903	366	0	1,269	10.00	930	303	0	1,233	10.20
Total Alloc. Out	98	36	0	134		126	34	0	160	
Total Retained	805	330	0	1,135		804	269	0	1,073	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	805	330	0	1,135		804	269	0	1,073	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	8	3	0	11	0.10	8	3	0	11	0.10
Directly Allocated	24	0	0	24	0.00	24	0	0	24	0.00
Subj. To % Alloc.	948	305	0	1,253	10.60	948	305	0	1,253	10.60
% Allocation										
Retained	88.57%	88.57%				88.57%	88.57%			
SEU	11.43%	11.43%				11.43%	11.43%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	840	270	0	1,110		840	270	0	1,110	
SEU	108	35	0	143		108	35	0	143	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	980	308	0	1,288	10.70	980	308	0	1,288	10.70
Total Alloc. Out	132	35	0	167		132	35	0	167	
Total Retained	848	273	0	1,121		848	273	0	1,121	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	848	273	0	1,121		848	273	0	1,121	

Southern California Gas Company
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Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0310.000 - Measurement and Design

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,306,098. Total Active meters at SDG&E is 840,529 (13%, 840529/6306098). Total Active meters at SoCal Gas is 5,465,569 (87%, 5465569/6306098). This Cost Center provides support to SoCal Gas Storage in FERC Accts 814-835. (January-November 2008 actual total was \$212,042. This is normalized for the year to \$231,318. $212042/11=19276.54*12=231318$). Those dollars were removed from the total and percentages were corrected to reduce them from the total. $(984240-231318=752922*.13=97,880$ which should be allocated. $97880/984240=.099447$ or 9.94%)

Cost Center Allocation Percentage for 2010

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813). This Cost Center provides support to SoCal Gas Storage in FERC Accts 814-835. (January-November 2009 actual total was \$148,219. This is normalized for the year to \$161,693. $148219/11=13474.42*12=161693$). 3% Labor inflation was calculated as 5079 and added for a total of 166772 ($161693+5079=166772$). Those dollars were removed from the total and percentages were corrected to reduce them from the total. $(1067215-166772=900443*.1355=122010$ which should be allocated. $122010/1067215=.114325629$ or 11.43%)

Cost Center Allocation Percentage for 2011

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813). This Cost Center provides support to SoCal Gas Storage in FERC Accts 814-835. (January-November 2009 actual total was \$148,219. This is normalized for the year to \$161,693. $148219/11=13474.42*12=161693$). 3% Labor inflation was calculated as 5079 and added for a total of 166772 ($161693+5079=166772$). Those dollars were removed from the total and percentages were corrected to reduce them from the total. $(1067215-166772=900443*.1355=122010$ which should be allocated. $122010/1067215=.114325629$ or 11.43%)

Cost Center Allocation Percentage for 2012

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Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0310.000 - Measurement and Design

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813). This Cost Center provides support to SoCal Gas Storage in FERC Accts 814-835. (January-November 2009 actual total was \$148,219. This is normalized for the year to \$161,693. $148219/11=13474.42*12=161693$). 3% Labor inflation was calculated as 5079 and added for a total of 166772 ($161693+5079=166772$). Those dollars were removed from the total and percentages were corrected to reduce them from the total. ($1067215-166772=900443*13.55=122010$ which should be allocated. $122010/1067215=.114325629$ or 11.43%)

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Area: ENGINEERING
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 Category: A. General Engineering
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 Cost Center: 2200-0310.000 - Measurement and Design

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	5-YR Average	890	890	890	40	90	90	930	980	980
Non-Labor	5-YR Average	293	293	293	10	15	15	303	308	308
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		1,183	1,183	1,183	50	105	105	1,233	1,288	1,288
FTE	5-YR Average	9.9	9.9	9.9	0.5	1.0	1.0	10.4	10.9	10.9

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	40	0	0	40	0.0	1-Sided Adj
Labor resources required for OSHA program compliance. Maintain ARC Flash Program - calculations, drawings, etc. (1/2 of \$80k)						
2010	0	10	0	10	0.0	1-Sided Adj
Non-labor resources required for OSHA program compliance. Maintain ARC Flash Program - calculations, drawings, etc.						
2010	0	0	0	0	0.5	1-Sided Adj
Labor resources required for OSHA program compliance. Maintain ARC Flash Program - calculations, drawings, etc.						
2010 Total	40	10	0	50	0.5	

2011	50	0	0	50	0.0	1-Sided Adj
Engineering labor resource required to support upgrades of aging vaults and reg stations. Design engineering needed for increased special designs related to reg station aging, and in particular vaults requiring replacement. (1/2 of \$100k)						
2011	0	5	0	5	0.0	1-Sided Adj
Engineering to support upgrade of aging vaults and reg stations. Design engineering needed for increased special designs related to reg station aging, and in particular vaults requiring replacement.						
2011	40	0	0	40	0.0	1-Sided Adj

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 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0310.000 - Measurement and Design

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Labor resources required for OSHA program compliance. Maintain ARC Flash Program - calculations, drawings, etc. (1/2 of \$80k)						
2011	0	10	0	10	0.0	1-Sided Adj
Non-labor resources required for OSHA program compliance. Maintain ARC Flash Program - calculations, drawings, etc.						
2011	0	0	0	0	0.5	1-Sided Adj
Labor resources required for OSHA program compliance. Maintain ARC Flash Program - calculations, drawings, etc.						
2011	0	0	0	0	0.5	1-Sided Adj
Engineering labor resource required to support upgrades of aging vaults and reg stations. Design engineering needed for increased special designs related to reg station aging, and in particular vaults requiring replacement.						

2011 Total	90	15	0	105	1.0	
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2012	40	0	0	40	0.0	1-Sided Adj
Labor resources required for OSHA program compliance. Maintain ARC Flash Program - calculations, drawings, etc. (1/2 of \$80k)						
2012	0	10	0	10	0.0	1-Sided Adj
Non-labor resources required for OSHA program compliance. Maintain ARC Flash Program - calculations, drawings, etc.						
2012	0	0	0	0	0.5	1-Sided Adj
Labor resources required for OSHA program compliance. Maintain ARC Flash Program - calculations, drawings, etc.						
2012	50	0	0	50	0.0	1-Sided Adj
Engineering labor resource required to support upgrades of aging vaults and reg stations. Design engineering needed for increased special designs related to reg station aging, and in particular vaults requiring replacement. (1/2 of \$100k)						
2012	0	0	0	0	0.5	1-Sided Adj
Engineering labor resource required to support upgrades of aging vaults and reg stations. Design engineering needed for increased special designs related to reg station aging, and in particular vaults requiring replacement.						

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 Cost Center: 2200-0310.000 - Measurement and Design

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2012	0	5	0	5	0.0	1-Sided Adj

Engineering to support upgrade of aging vaults and reg stations. Design engineering needed for increased special designs related to reg station aging, and in particular vaults requiring replacement.

2012 Total	90	15	0	105	1.0	
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Shared Services Workpapers

Area: ENGINEERING
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Category: A. General Engineering
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Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	752	770	657	796	765
Non-Labor	273	209	278	281	366
NSE	0	0	0	0	0
Total	1,025	979	935	1,077	1,131
FTE	9.3	9.6	7.5	9.1	8.6
Adjustments (Nominal \$) **					
Labor	-93	-61	0	0	0
Non-Labor	-6	0	0	0	0
NSE	0	0	0	0	0
Total	-99	-61	0	0	0
FTE	-1.2	-1.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	659	708	657	796	765
Non-Labor	267	209	278	281	366
NSE	0	0	0	0	0
Total	926	918	935	1,077	1,131
FTE	8.1	8.6	7.5	9.1	8.5
Vacation & Sick (Nominal \$)					
Labor	112	127	115	153	138
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	112	127	115	153	138
FTE	1.5	1.5	1.4	1.8	1.6
Escalation to 2009\$					
Labor	96	74	43	14	0
Non-Labor	33	19	16	4	0
NSE	0	0	0	0	0
Total	129	93	59	18	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	867	909	815	963	903
Non-Labor	300	228	294	285	366
NSE	0	0	0	0	0
Total	1,167	1,138	1,109	1,248	1,269
FTE	9.6	10.1	8.9	10.9	10.1

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
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Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0310.000 - Measurement and Design

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
Labor	-93	-61	0	0	0
Non-Labor	-6	0	0	0	0
NSE	0	0	0	0	0
Total	-99	-61	0	0	0
FTE	-1.2	-1.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year/Expl.	Labor	NLbr	NSE	FTE	Adj Type	From Cctr	RefID
2005	-93	0	0	0.0	CCTR Transf	To 2200-2248.000	TPLGL20091112 164214463
Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2005	0	-6	0	0.0	CCTR Transf	To 2200-2248.000	TPLGL20091112 164252950
Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2005	0	0	0	-1.2	CCTR Transf	To 2200-2248.000	TPLGL20091112 164353357
Transfer FTEs for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2005 Total	-93	-6	0	-1.2			

2006	-61	0	0	0.0	CCTR Transf	To 2200-2248.000	TPLGL20091112 164443360
Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							

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Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0310.000 - Measurement and Design

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2006	0	0	0	-1.0	CCTR Transf	To 2200-2248.000	TPGL20091112 164532563

Transfer FTEs for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.

2006 Total	-61	0	0	-1.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-0311.000 - Measurement Technologies

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Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0311.000 - Measurement Technologies

Activity Description:

The Measurement Technologies Team under this cost center is responsible for testing , evaluation, selection, deployment strategic planning and policies and practices associated with gas metering equipment, ranging from the smallest residential diaphragm meters to the largest ultrasonic meters and electronic measurement equipment. This work is conducted on behalf of both SDGE and SoCalGas. This group is also responsible for managing the company's meter and regulator maintenance and inspection scheduling and reporting system, for providing auditing of company measurement sites to ensure compliance with policy and technical specifications; and for conducting engineering studies to determine replacement and performance enhancement strategies for installed measurement infrastructure.

Forecast Methodology:

Labor - 5-YR Average

The 5-yr average expenditures are appropriate to provide for Engineering Measurement Technologies activities as it represents and accounts for the fluctuation in activities from year to year. While a three-year average results in higher recorded expenses, a 5-year average consistent with all cost centers subordinate to cc 2200-0309 being employed.

Non-Labor - 5-YR Average

The 5-yr average expenditures are appropriate to provide for Engineering Measurement Technologies activities as it represents and accounts for the fluctuation in activities from year to year. While a three-year average or base year actual spend both result in higher recorded expenses, a 5-year average consistent with all cost centers subordinate to cc 2200-0309 being employed.

NSE - 5-YR Average

There are no non-standard escalation expenses in this cost center.

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Area: ENGINEERING
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Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0311.000 - Measurement Technologies

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		694	704	700	677	762	706	706	706
Non-Labor		44	58	76	125	95	79	79	79
NSE		0	0	0	0	0	0	0	0
Total		738	762	776	802	857	785	785	785
FTE		7.3	7.6	7.7	7.8	8.6	7.8	7.8	7.8
		Allocations Out							
Labor		90	93	91	88	100	96	96	96
Non-Labor		6	8	10	16	12	11	11	11
NSE		0	0	0	0	0	0	0	0
Total		96	101	101	104	112	107	107	107
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		604	611	609	589	662	610	610	610
Non-Labor		38	50	66	109	83	68	68	68
NSE		0	0	0	0	0	0	0	0
Total		642	661	675	698	745	678	678	678
FTE		7.3	7.6	7.7	7.8	8.6	7.8	7.8	7.8
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		604	611	609	589	662	610	610	610
Non-Labor		38	50	66	109	83	68	68	68
NSE		0	0	0	0	0	0	0	0
Total		642	661	675	698	745	678	678	678
FTE		7.3	7.6	7.7	7.8	8.6	7.8	7.8	7.8

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Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	1	0	4	0.00	1	1	0	2	0.00
Directly Allocated	1	0	0	1	0.00	0	0	0	0	0.00
Subj. To % Alloc.	758	94	0	852	8.60	705	78	0	783	7.80
% Allocation										
Retained	87.01%	87.01%				86.45%	86.45%			
SEU	12.99%	12.99%				13.55%	13.55%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	659	82	0	741		609	67	0	676	
SEU	99	12	0	111		96	11	0	107	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	762	95	0	857	8.60	706	79	0	785	7.80
Total Alloc. Out	100	12	0	112		96	11	0	107	
Total Retained	662	83	0	745		610	68	0	678	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	662	83	0	745		610	68	0	678	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	1	1	0	2	0.00	1	1	0	2	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	705	78	0	783	7.80	705	78	0	783	7.80
% Allocation										
Retained	86.45%	86.45%				86.45%	86.45%			
SEU	13.55%	13.55%				13.55%	13.55%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	609	67	0	676		609	67	0	676	
SEU	96	11	0	107		96	11	0	107	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	706	79	0	785	7.80	706	79	0	785	7.80
Total Alloc. Out	96	11	0	107		96	11	0	107	
Total Retained	610	68	0	678		610	68	0	678	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	610	68	0	678		610	68	0	678	

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Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0311.000 - Measurement Technologies

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,306,098. Total Active meters at SDG&E is 840,529 (13%, 840529/6306098). Total Active meters at SoCal Gas is 5,465,569 (87%, 5465569/6306098).

Cost Center Allocation Percentage for 2010

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Cost Center Allocation Percentage for 2011

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Cost Center Allocation Percentage for 2012

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 Cost Center: 2200-0311.000 - Measurement Technologies

Forecast Summary:

Forecast Method		In 2009 \$(000) "Incurred Costs"								
		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	5-YR Average	706	706	706	0	0	0	706	706	706
Non-Labor	5-YR Average	79	79	79	0	0	0	79	79	79
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		785	785	785	0	0	0	785	785	785
FTE	5-YR Average	7.8	7.8	7.8	0.0	0.0	0.0	7.8	7.8	7.8

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0311.000 - Measurement Technologies

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	527	548	565	559	645
Non-Labor	39	53	72	123	94
NSE	0	0	0	0	0
Total	567	601	637	682	740
FTE	6.2	6.5	6.5	6.5	7.2
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	527	548	565	559	645
Non-Labor	39	53	72	123	94
NSE	0	0	0	0	0
Total	567	601	637	682	740
FTE	6.2	6.4	6.5	6.5	7.2
Vacation & Sick (Nominal \$)					
Labor	90	98	99	108	117
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	90	98	99	108	117
FTE	1.1	1.2	1.2	1.3	1.4
Escalation to 2009\$					
Labor	77	58	37	10	0
Non-Labor	5	5	4	2	0
NSE	0	0	0	0	0
Total	82	62	41	12	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	694	704	700	677	762
Non-Labor	44	58	76	125	94
NSE	0	0	0	0	0
Total	738	762	776	802	856
FTE	7.3	7.6	7.7	7.8	8.6

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
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 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0311.000 - Measurement Technologies

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-0312.000 - Measurement Field Support

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0312.000 - Measurement Field Support

Activity Description:

The labor and non-labor expenses for this cost center are for employees who provide planning, hands on support, technical guidance, policy, procedures and training in the areas of large automated control systems for gas compressor stations, pipelines, California Producers, metering and regulating stations and ancillary equipment for both SDGE and SCG. The gas systems and operational personnel supported include gas transmission, distribution and underground storage. Occasional support provided to customer services. This cost center also provides field support to maintain over 200 field computers used by distribution/transmission and storage field personnel to program, calibrate and configure electronic field instruments such as measurement systems, gas chromatographs and programmable logic controllers.

Forecast Methodology:

Labor - 5-YR Average

The 5-year average was chosen due to the nature of the activities performed within this organization. Added resources are required for this cost center to account for increase activity to manage producer gas quality in one-hour averaging . Approximately 40 gas producers will require more technical support when their gas feed to SoCalGas' pipelines are shut in at more frequent intervals. The tracking of such shut-ins via remote monitoring systems and the management of those systems is also and upward pressure which will be incurred by this cost center.

Non-Labor - 5-YR Average

The 5-year average was chosen due to the nature of the activities performed within this organization. Added upward pressure related to California producer hourly gas quality management are attributable to increases in employee travel and expenses to respond to programming and data processing issues, and maintenance of hardware, software and communications costs to manage additional remote monitoring and capture of producer gas quality data from on-site gas chromatographs.

NSE - 5-YR Average

There are no non-standard escalation expenses in this cost center.

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0312.000 - Measurement Field Support

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		1,006	997	820	1,025	834	985	985	985
Non-Labor		191	217	184	156	181	204	204	204
NSE		0	0	0	0	0	0	0	0
Total		1,197	1,214	1,004	1,181	1,015	1,189	1,189	1,189
FTE		12.2	11.7	10.3	12.6	9.8	11.8	11.8	11.8
		Allocations Out							
Labor		132	129	116	183	123	149	149	149
Non-Labor		25	30	29	32	30	32	32	32
NSE		0	0	0	0	0	0	0	0
Total		157	159	145	215	153	181	181	181
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		874	868	704	842	711	836	836	836
Non-Labor		166	187	155	124	151	172	172	172
NSE		0	0	0	0	0	0	0	0
Total		1,040	1,055	859	966	862	1,008	1,008	1,008
FTE		12.2	11.7	10.2	11.9	9.6	11.6	11.6	11.6
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		874	868	704	842	711	836	836	836
Non-Labor		166	187	155	124	151	172	172	172
NSE		0	0	0	0	0	0	0	0
Total		1,040	1,055	859	966	862	1,008	1,008	1,008
FTE		12.2	11.7	10.2	11.9	9.6	11.6	11.6	11.6

Southern California Gas Company
 Test Year 2012 GRC - REVISED
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Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0312.000 - Measurement Field Support

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	6	1	0	7	0.10	2	0	0	2	0.00
Directly Allocated	18	8	0	26	0.00	17	5	0	22	0.00
Subj. To % Alloc.	810	172	0	982	9.50	966	199	0	1,165	11.60
% Allocation										
Retained	87.01%	87.01%				86.45%	86.45%			
SEU	12.99%	12.99%				13.55%	13.55%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	705	150	0	855		834	172	0	1,006	
SEU	105	22	0	127		132	27	0	159	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	834	181	0	1,015	9.60	985	204	0	1,189	11.60
Total Alloc. Out	123	30	0	153		149	32	0	181	
Total Retained	711	151	0	862		836	172	0	1,008	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	711	151	0	862		836	172	0	1,008	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	2	0	0	2	0.00	2	0	0	2	0.00
Directly Allocated	17	5	0	22	0.00	17	5	0	22	0.00
Subj. To % Alloc.	966	199	0	1,165	11.60	966	199	0	1,165	11.60
% Allocation										
Retained	86.45%	86.45%				86.45%	86.45%			
SEU	13.55%	13.55%				13.55%	13.55%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	834	172	0	1,006		834	172	0	1,006	
SEU	132	27	0	159		132	27	0	159	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	985	204	0	1,189	11.60	985	204	0	1,189	11.60
Total Alloc. Out	149	32	0	181		149	32	0	181	
Total Retained	836	172	0	1,008		836	172	0	1,008	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	836	172	0	1,008		836	172	0	1,008	

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0312.000 - Measurement Field Support

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,306,098. Total Active meters at SDG&E is 840,529 (13%, 840529/6306098). Total Active meters at SoCal Gas is 5,465,569 (87%, 5465569/6306098).

Cost Center Allocation Percentage for 2010

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813).

Cost Center Allocation Percentage for 2011

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813).

Cost Center Allocation Percentage for 2012

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813).

Southern California Gas Company
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 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0312.000 - Measurement Field Support

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	5-YR Average	935	935	935	50	50	50	985	985	985
Non-Labor	5-YR Average	184	184	184	20	20	20	204	204	204
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		1,119	1,119	1,119	70	70	70	1,189	1,189	1,189
FTE	5-YR Average	11.3	11.3	11.3	0.5	0.5	0.5	11.8	11.8	11.8

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	50	0	0	50	0.0	1-Sided Adj

Additional labor resources required to provide software maintenance, data analysis, failure response, spare parts inventory maintenance, parts replacement. Gas Producer Hourly Gas Quality Management. (1/2 \$100k)

2010	0	20	0	20	0.0	1-Sided Adj
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Additional non-labor resources required to provide parts replacement and spare parts inventory maintenance in preparation for contractual and failure response activities. Gas Producer Hourly Gas Quality Management.

2010	0	0	0	0	0.5	1-Sided Adj
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Additional labor resources required to provide software maintenance, data analysis, failure response, spare parts inventory maintenance, parts replacement. Gas Producer Hourly Gas Quality Management

2010 Total	50	20	0	70	0.5	
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2011	50	0	0	50	0.0	1-Sided Adj
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Additional labor resources required to provide software maintenance, data analysis, failure response, spare parts inventory maintenance, parts replacement. Gas Producer Hourly Gas Quality Management. (1/2 \$100k)

2011	0	20	0	20	0.0	1-Sided Adj
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Additional non-labor resources required to provide parts replacement and spare parts inventory maintenance in preparation for contractual and failure response activities. Gas Producer Hourly Gas Quality Management.

Southern California Gas Company
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 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-0312.000 - Measurement Field Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	0	0	0	0	0.5	1-Sided Adj

Additional labor resources required to provide software maintenance, data analysis, failure response, spare parts inventory maintenance, parts replacement. Gas Producer Hourly Gas Quality Management

2011 Total	50	20	0	70	0.5	
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2012	50	0	0	50	0.0	1-Sided Adj
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Additional labor resources required to provide software maintenance, data analysis, failure response, spare parts inventory maintenance, parts replacement. Gas Producer Hourly Gas Quality Management. (1/2 \$100k)

2012	0	20	0	20	0.0	1-Sided Adj
------	---	----	---	----	-----	-------------

Additional non-labor resources required to provide parts replacement and spare parts inventory maintenance in preparation for contractual and failure response activities. Gas Producer Hourly Gas Quality Management.

2012	0	0	0	0	0.5	1-Sided Adj
------	---	---	---	---	-----	-------------

Additional labor resources required to provide software maintenance, data analysis, failure response, spare parts inventory maintenance, parts replacement. Gas Producer Hourly Gas Quality Management

2012 Total	50	20	0	70	0.5	
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Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0312.000 - Measurement Field Support

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	765	776	607	846	706
Non-Labor	169	199	175	155	181
NSE	0	0	0	0	0
Total	934	975	782	1,001	887
FTE	10.3	9.9	7.7	10.5	8.3
Adjustments (Nominal \$) **					
Labor	0	0	54	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	54	0	0
FTE	0.0	0.0	1.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	765	776	661	846	706
Non-Labor	169	199	175	155	181
NSE	0	0	0	0	0
Total	934	975	835	1,001	887
FTE	10.3	9.9	8.7	10.5	8.3
Vacation & Sick (Nominal \$)					
Labor	130	139	115	163	128
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	130	139	115	163	128
FTE	1.9	1.8	1.6	2.1	1.5
Escalation to 2009\$					
Labor	111	81	44	15	0
Non-Labor	21	18	10	2	0
NSE	0	0	0	0	0
Total	132	99	53	17	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	1,006	996	819	1,024	834
Non-Labor	190	216	185	157	181
NSE	0	0	0	0	0
Total	1,197	1,212	1,004	1,181	1,015
FTE	12.2	11.7	10.3	12.6	9.8

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0312.000 - Measurement Field Support

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
Labor	0	0	54	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	54	0	0
FTE	0.0	0.0	1.0	0.0	0.0

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007	54	0	0	0.0	CCTR Transf	From 2200-0309.000	TPLGL20091112 164912537
Transfer expenditures for Sulfur and Gas Quality activities that were moved to Cost Ctr 2200-312. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2007	0	0	0	1.0	CCTR Transf	From 2200-0309.000	TPLGL20091112 164944567
Transfer FTEs for Sulfur and Gas Quality activities that were moved to Cost Ctr 2200-312.							
2007 Total	54	0	0	1.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-0799.000 - Instrument Repair & Field Maintenance Supervision

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0799.000 - Instrument Repair & Field Maintenance Supervision

Activity Description:

The resources in this organization provide: calibration of temperature and pressure gauges and secondary standards used by field personnel to maintain gas facilities, field inspection of large metering facilities using bore scoping techniques, maintenance of all company gas standards used to test and calibrate gas meters and the laboratory configuration, programming testing and laboratory repair/assessment of all electronic measurement devices used for customer billing. Special meter testing is also conducted on gas meters removed from the field where safety or other matters are investigated. This cost center also provides for the maintenance, troubleshooting repair and upgrade of all "bell provers" (primary measurement test standards) used by the both SDGE and SCG to test over 100,000 meters annually.

Forecast Methodology:

Labor - 5-YR Average

The 5-year average was chosen due to retain consistency among all cost centers subordinate to cc 2200-0309. This methodology accurately averages fluctuations in labor expense due to normal staffing issues, like retirements/rehire time skew. Labor increase is for added calibrations required to support 600 new gauges used by customer service personnel to set 2 psi service pressures. Accurate pressure set is important for billing accuracy and service safety. Minor labor increase to process and test field rotary provers following rebuild.

Non-Labor - 3-YR Average

The 3 year average was chosen for non labor expenses due to the changes in activities affecting this cost center since 2005. These changes are now part of normal ongoing operations and are forecast to continue. The increase is due to rebuild of ten provers each year at \$3,000 per unit...cost paid to 3rd party. This rebuild is a 1/10-year event for each field prover. Added non labor cost for gauges include replacement gauges, shipping packaging and test equipment purchase to support the recalibration processes. These additional costs are not reflected in the 5-year average and thus why that methodology is not sufficient to meet ongoing needs.

NSE - 5-YR Average

There are no non-standard escalation expenses for this cost center.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-0799.000 - Instrument Repair & Field Maintenance Supervision

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		478	498	477	412	477	492	492	492
Non-Labor		13	107	227	280	257	309	309	309
NSE		0	0	0	0	0	0	0	0
Total		491	605	704	692	734	801	801	801
FTE		8.1	7.6	7.8	6.0	6.4	7.6	7.6	7.6
		Allocations Out							
Labor		0	1	2	0	29	16	16	16
Non-Labor		0	1	1	0	13	16	16	16
NSE		0	0	0	0	0	0	0	0
Total		0	2	3	0	42	32	32	32
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		478	497	475	412	448	476	476	476
Non-Labor		13	106	226	280	244	293	293	293
NSE		0	0	0	0	0	0	0	0
Total		491	603	701	692	692	769	769	769
FTE		8.1	7.6	7.8	6.0	6.4	7.6	7.6	7.6
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		478	497	475	412	448	476	476	476
Non-Labor		13	106	226	280	244	293	293	293
NSE		0	0	0	0	0	0	0	0
Total		491	603	701	692	692	769	769	769
FTE		8.1	7.6	7.8	6.0	6.4	7.6	7.6	7.6

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Cost Center: 2200-0799.000 - Instrument Repair & Field Maintenance Supervision

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	14	52	0	66	0.00	194	23	0	217	2.40
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	463	205	0	668	6.40	298	286	0	584	5.20
% Allocation										
Retained	93.81%	93.81%				94.44%	94.44%			
SEU	6.19%	6.19%				5.56%	5.56%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	434	192	0	626		282	270	0	552	
SEU	29	13	0	42		16	16	0	32	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	477	257	0	734	6.40	492	309	0	801	7.60
Total Alloc. Out	29	13	0	42		16	16	0	32	
Total Retained	448	244	0	692		476	293	0	769	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	448	244	0	692		476	293	0	769	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	194	23	0	217	2.40	194	23	0	217	2.40
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	298	286	0	584	5.20	298	286	0	584	5.20
% Allocation										
Retained	94.44%	94.44%				94.44%	94.44%			
SEU	5.56%	5.56%				5.56%	5.56%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	282	270	0	552		282	270	0	552	
SEU	16	16	0	32		16	16	0	32	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	492	309	0	801	7.60	492	309	0	801	7.60
Total Alloc. Out	16	16	0	32		16	16	0	32	
Total Retained	476	293	0	769		476	293	0	769	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	476	293	0	769		476	293	0	769	

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Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Shared services allocation covers Field maintenance and instrument repair support. Calculation is based on an estimated salary reallocation of \$38,000, or 13% of five technicians' productive time based on ratio of SDG&E Gas Meters to So Cal Gas Meters. Meter calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,306,098. Total Active meters at SDG&E is 840,529 (13%). Total Active meters at SoCal Gas is 5,465,569 (87%). The reallocation is based on an average salary of \$70,000 per technician less 17% for V&S.
 $(5 * 70,000 = 350,000 * .83 = 290,500 * 13\% = 37,765$ or ~ \$38K) In order to derive a \$38,000 reallocation total labor and nonlabor expenditures less V&S are used to calculate a percentage.
 $\$37,765 / \$610,250 = 6.19\%$.

Cost Center Allocation Percentage for 2010

Shared services allocation covers Field maintenance and instrument repair support. Calculation is based on an estimated salary reallocation of ~\$39,000, or 13% of five technicians' productive time based on ratio of SDG&E Gas Meters to So Cal Gas Meters. Meter calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,306,098. Total Active meters at SDG&E is 840,529 (13%). Total Active meters at SoCal Gas is 5,465,569 (87%). The reallocation is based on an average salary of \$72,000 per technician less 17% for V&S.
 $(5 * 72,000 = 360,000 * .83 = 298,800 * 13\% = 38,844$ or ~ \$39K) In order to derive a \$39,000 reallocation total labor and nonlabor expenditures less V&S are used to calculate a percentage.
 $\$38,844 / \$698,067 = .055645$, or 5.56%.

Cost Center Allocation Percentage for 2011

Shared services allocation covers Field maintenance and instrument repair support. Calculation is based on an estimated salary reallocation of ~\$39,000, or 13% of five technicians' productive time based on ratio of SDG&E Gas Meters to So Cal Gas Meters. Meter calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,306,098. Total Active meters at SDG&E is 840,529 (13%). Total Active meters at SoCal Gas is 5,465,569 (87%). The reallocation is based on an average salary of \$72,000 per technician less 17% for V&S.
 $(5 * 72,000 = 360,000 * .83 = 298,800 * 13\% = 38,844$ or ~ \$39K) In order to derive a \$39,000 reallocation total labor and nonlabor expenditures less V&S are used to calculate a percentage.
 $\$38,844 / \$698,067 = .055645$, or 5.56%.

Cost Center Allocation Percentage for 2012

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Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
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Shared services allocation covers Field maintenance and instrument repair support. Calculation is based on an estimated salary reallocation of ~\$39,000, or 13% of five technicians' productive time based on ratio of SDG&E Gas Meters to So Cal Gas Meters. Meter calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,306,098. Total Active meters at SDG&E is 840,529 (13%). Total Active meters at SoCal Gas is 5,465,569 (87%). The reallocation is based on an average salary of \$72,000 per technician less 17% for V&S. ($5 * 72,000 = 360,000 * .83 = 298,800 * 13\% = 38,844$ or ~ \$39K) In order to derive a \$39,000 reallocation total labor and nonlabor expenditures less V&S are used to calculate a percentage. $\$38,844 / \$698,067 = .055645$, or 5.56%.

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Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	5-YR Average	467	467	467	25	25	25	492	492	492
Non-Labor	3-YR Average	254	254	254	55	55	55	309	309	309
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		721	721	721	80	80	80	801	801	801
FTE	5-YR Average	7.2	7.2	7.2	0.4	0.4	0.4	7.6	7.6	7.6

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	5	0	0	5	0.0	1-Sided Adj

Labor resource required to manage the rebuild and recertification of 35 gas measurement field transfer provers.

2010	0	0	0	0	0.1	1-Sided Adj
------	---	---	---	---	-----	-------------

Labor resource required to manage the rebuild and recertification of 35 gas measurement field transfer provers.

2010	0	30	0	30	0.0	1-Sided Adj
------	---	----	---	----	-----	-------------

Non-labor requirements in support of rebuild and recertification of 35 gas measurement field transfer provers. Mfg recommended maintenance and upgrade to ensure continued accuracy in conformance with CPUC requirements for prover accuracy. Rebuild 10/year at \$3000 per unit.

2010	20	0	0	20	0.0	1-Sided Adj
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2 PSI enhanced CSI from builder perspective multi family- forward looking to single family. Metrology Lab 1/4 FTE plus n/l: Annual maintenance/calibration and repair of 600 new pressure gauges to support customer service operation of 80,000 (and rapidly expanding in number) 2 psi services. NIST traceability required for above standard delivery billing factor.

2010	0	25	0	25	0.0	1-Sided Adj
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2 PSI enhanced CSI from builder perspective multi family - forward looking to single family. Metrology Lab 1/4 FTE plus n/l: Annual maintenance/calibration and repair of 600 new pressure gauges to support customer service operation of 80,000 (and rapidly expanding in number) 2 psi services. NIST traceability required for above standard delivery billing factor.

2010	0	0	0	0	0.3	1-Sided Adj
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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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2 PSI enhanced CSI from builder perspective multi family - forward looking to single family. Metrology Lab 1/4 FTE plus n/l: Annual maintenance/calibration and repair of 600 new pressure gauges to support customer service operation of 80,000 (and rapidly expanding in number) 2 psi services. NIST traceability required for above standard delivery billing factor.

2010 Total	25	55	0	80	0.4	
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2011	0	0	0	0	0.1	1-Sided Adj
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Labor resource required to manage the rebuild and recertification of 35 gas measurement field transfer provers.

2011	0	30	0	30	0.0	1-Sided Adj
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Non-labor requirements in support of rebuild and recertification of 35 gas measurement field transfer provers. Mfg recommended maintenance and upgrade to ensure continued accuracy in conformance with CPUC requirements for prover accuracy. Rebuild 10/year at \$3000 per unit.

2011	20	0	0	20	0.0	1-Sided Adj
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2 PSI enhanced CSI from builder perspective multi family - forward looking to single family. Metrology Lab 1/4 FTE plus n/l: Annual maintenance/calibration and repair of 600 new pressure gauges to support customer service operation of 80,000 (and rapidly expanding in number) 2 psi services. NIST traceability required for above standard delivery billing factor.

2011	0	25	0	25	0.0	1-Sided Adj
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2 PSI enhanced CSI from builder perspective multi family- forward looking to single family. Metrology Lab 1/4 FTE plus n/l: Annual maintenance/calibration and repair of 600 new pressure gauges to support customer service operation of 80,000 (and rapidly expanding in number) 2 psi services. NIST traceability required for above standard delivery billing factor.

2011	0	0	0	0	0.3	1-Sided Adj
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2 PSI enhanced CSI from builder perspective multi family - forward looking to single family. Metrology Lab 1/4 FTE plus n/l: Annual maintenance/calibration and repair of 600 new pressure gauges to support customer service operation of 80,000 (and rapidly expanding in number) 2 psi services. NIST traceability required for above standard delivery billing factor.

2011	5	0	0	5	0.0	1-Sided Adj
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Labor resource required to manage the rebuild and recertification of 35 gas measurement field transfer provers.

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 Cost Center: 2200-0799.000 - Instrument Repair & Field Maintenance Supervision

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011 Total	25	55	0	80	0.4	
2012	0	0	0	0	0.1	1-Sided Adj
	Labor resource required to manage the rebuild and recertification of 35 gas measurement field transfer provers.					
2012	5	0	0	5	0.0	1-Sided Adj
	Labor resource required to manage the rebuild and recertification of 35 gas measurement field transfer provers.					
2012	0	30	0	30	0.0	1-Sided Adj
	Non-labor requirements in support of rebuild and recertification of 35 gas measurement field transfer provers. Mfg recommended maintenance and upgrade to ensure continued accuracy in conformance with CPUC requirements for prover accuracy. Rebuild 10/year at \$3000 per unit.					
2012	20	0	0	20	0.0	1-Sided Adj
	2 PSI enhanced CSI from builder perspective multi family - forward looking to single family. Metrology Lab 1/4 FTE plus n/l:Annual maintenance/calibration and repair of 600 new pressure gauges to support customer service operation of 80,000 (and rapidly expanding in number) 2 psi services. NIST traceability required for above standard delivery billing factor.					
2012	0	25	0	25	0.0	1-Sided Adj
	2 PSI enhanced CSI from builder perspective multi family - forward looking to single family. Metrology Lab 1/4 FTE plus n/l:Annual maintenance/calibration and repair of 600 new pressure gauges to support customer service operation of 80,000 (and rapidly expanding in number) 2 psi services. NIST traceability required for above standard delivery billing factor.					
2012	0	0	0	0	0.3	1-Sided Adj
	2 PSI enhanced CSI from builder perspective multi family - forward looking to single family. Metrology Lab 1/4 FTE plus n/l:Annual maintenance/calibration and repair of 600 new pressure gauges to support customer service operation of 80,000 (and rapidly expanding in number) 2 psi services. NIST traceability required for above standard delivery billing factor.					
2012 Total	25	55	0	80	0.4	

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Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	1,265	1,214	796	340	404
Non-Labor	12	259	415	276	257
NSE	0	0	0	0	0
Total	1,277	1,473	1,211	616	661
FTE	18.9	17.4	11.6	5.0	5.4
Adjustments (Nominal \$) **					
Labor	-902	-825	-411	0	0
Non-Labor	0	-160	-200	0	0
NSE	0	0	0	0	0
Total	-902	-985	-611	0	0
FTE	-12.0	-11.0	-5.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	363	388	384	340	404
Non-Labor	12	99	215	276	257
NSE	0	0	0	0	0
Total	375	487	599	616	661
FTE	6.9	6.4	6.6	5.0	5.4
Vacation & Sick (Nominal \$)					
Labor	62	69	67	66	73
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	62	69	67	66	73
FTE	1.2	1.2	1.2	1.0	1.0
Escalation to 2009\$					
Labor	53	41	25	6	0
Non-Labor	1	9	12	4	0
NSE	0	0	0	0	0
Total	54	50	37	10	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	478	498	477	412	477
Non-Labor	13	108	227	280	257
NSE	0	0	0	0	0
Total	492	606	704	692	733
FTE	8.1	7.6	7.8	6.0	6.4

* After company-wide exclusions of Non-GRC costs

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

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Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
Labor	-902	-825	-411	0	0
Non-Labor	0	-160	-200	0	0
NSE	0	0	0	0	0
Total	-902	-985	-611	0	0
FTE	-12.0	-11.0	-5.0	0.0	0.0

Detail of Adjustments to Recorded:

Year/Expl.	Labor	NLbr	NSE	FTE	Adj Type	From CCtr	RefID
2005	-902	0	0	0.0	CCTR Transf	To 2200-2265.000	TPLGL20091112 165202897
Transfer expenditures for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2005	0	0	0	-12.0	CCTR Transf	To 2200-2265.000	TPLGL20091112 165627730
Transfer FTEs for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							

2005 Total	-902	0	0	-12.0			
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2006	-825	0	0	0.0	CCTR Transf	To 2200-2265.000	TPLGL20091112 165824843
Transfer expenditures for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2006	0	-160	0	0.0	CCTR Transf	To 2200-2265.000	TPLGL20091112 165854500
Transfer expenditures for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2006	0	0	0	-11.0	CCTR Transf	To 2200-2265.000	TPLGL20091112 165934220
Transfer FTEs for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							

2006 Total	-825	-160	0	-11.0			
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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2007	-411	0	0	0.0	CCTR Transf	To 2200-2265.000	TPLGL20091112 170028097
Transfer expenditures for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2007	0	-200	0	0.0	CCTR Transf	To 2200-2265.000	TPLGL20091112 170100737
Transfer expenditures for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2007	0	0	0	-5.0	CCTR Transf	To 2200-2265.000	TPLGL20091112 170135220
Transfer FTEs for activities that were moved to Cost Ctr 2200-2265, which was opened during 2007.							
2007 Total	-411	-200	0	-5.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-2248.000 - Measurement & Regulation Standards, Materials, BTU Districts

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Cost Center: 2200-2248.000 - Measurement & Regulation Standards, Materials, BTU Districts

Activity Description:

Activity in this cost center includes engineering, design, material specification and technical standards for small and medium sized meter and regulator stations employed by both SoCalGas and SDG&E. Other activity includes the management of all policy, standards and planning for the measurement of gas quality associated with thermal zone (SDGE) and Btu district measurement, and for any special reporting and planning in both companies to contend with regulatory and customer need for gas quality/component reporting.

Forecast Methodology:

Labor - 5-YR Average

5-year year average expenditures are used as a starting point to remain consistent with cost center 2200-0309 subordinate cost center forecast methodology. Adjustments were made to account for increased requirements of SCAQMD Rule 433 and related gas quality data presentation and posting requirements. These included California Air Resource Board Gas quality specification monitoring and reporting, greenhouse gas inventory technical/engineering support, and added SDGE Thermal zone monitoring.

Non-Labor - 5-YR Average

The 5-yr average is used as a basis for tracking historical expense and future requirements. Non-Labor upward pressure is for data processing equipment and storage to contend with gas quality recording, data compilation and reporting due to a combination of Air Quality agency direct rulemaking targeting SoCalGas and related support of customers in both SDGE and SCG service territory; and for limited employee expenses associated with added position and activity.

NSE - 5-YR Average

There are no non-standard escalation expenses in this cost center.

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Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		301	353	405	337	430	465	465	465
Non-Labor		13	0	3	15	10	28	13	13
NSE		0	0	0	0	0	0	0	0
Total		314	353	408	352	440	493	478	478
FTE		3.8	4.7	4.8	3.8	5.0	5.4	5.4	5.4
		Allocations Out							
Labor		0	0	53	43	56	63	63	63
Non-Labor		0	0	0	2	1	4	2	2
NSE		0	0	0	0	0	0	0	0
Total		0	0	53	45	57	67	65	65
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		301	353	352	294	374	402	402	402
Non-Labor		13	0	3	13	9	24	11	11
NSE		0	0	0	0	0	0	0	0
Total		314	353	355	307	383	426	413	413
FTE		3.8	4.7	4.8	3.8	5.0	5.4	5.4	5.4
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		301	353	352	294	374	402	402	402
Non-Labor		13	0	3	13	9	24	11	11
NSE		0	0	0	0	0	0	0	0
Total		314	353	355	307	383	426	413	413
FTE		3.8	4.7	4.8	3.8	5.0	5.4	5.4	5.4

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-2248.000 - Measurement & Regulation Standards, Materials, BTU Districts

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	2	0	0	2	0.00	1	0	0	1	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	428	10	0	438	5.00	464	28	0	492	5.40
% Allocation										
Retained	87.00%	87.00%				86.45%	86.45%			
SEU	13.00%	13.00%				13.55%	13.55%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	372	9	0	381		401	24	0	425	
SEU	56	1	0	57		63	4	0	67	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	430	10	0	440	5.00	465	28	0	493	5.40
Total Alloc. Out	56	1	0	57		63	4	0	67	
Total Retained	374	9	0	383		402	24	0	426	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	374	9	0	383		402	24	0	426	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	1	0	0	1	0.00	1	0	0	1	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	464	13	0	477	5.40	464	13	0	477	5.40
% Allocation										
Retained	86.45%	86.45%				86.45%	86.45%			
SEU	13.55%	13.55%				13.55%	13.55%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	401	11	0	412		401	11	0	412	
SEU	63	2	0	65		63	2	0	65	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	465	13	0	478	5.40	465	13	0	478	5.40
Total Alloc. Out	63	2	0	65		63	2	0	65	
Total Retained	402	11	0	413		402	11	0	413	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	402	11	0	413		402	11	0	413	

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-2248.000 - Measurement & Regulation Standards, Materials, BTU Districts

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,306,098. Total Active meters at SDG&E is 840,529 (13%, 840529/6306098). Total Active meters at SoCal Gas is 5,465,569 (87%, 5465569/6306098).

Cost Center Allocation Percentage for 2010

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813).

Cost Center Allocation Percentage for 2011

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813).

Cost Center Allocation Percentage for 2012

All calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13.55% SDG&E and 86.45% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%, 859264/6342813). Total Active meters at SoCal Gas is 5,483,549 (86.45%, 5483549/6342813).

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-2248.000 - Measurement & Regulation Standards, Materials, BTU Districts

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	5-YR Average	365	365	365	100	100	100	465	465	465
Non-Labor	5-YR Average	8	8	8	20	5	5	28	13	13
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		373	373	373	120	105	105	493	478	478
FTE	5-YR Average	4.4	4.4	4.4	1.0	1.0	1.0	5.4	5.4	5.4

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	100	0	0	100	0.0	1-Sided Adj

Gas Quality Reporting to air quality agencies. Air quality management districts have been asking for collection, compilation, and formal reporting of gas quality data from on-line Gas Chromatographs. SCAQMD Rule 433 adopted June 09. Increase covers staff time for preparing data for reporting to agencies. Assist in technical troubleshooting of GC data posted hourly for CARB compliance.

2010	0	20	0	20	0.0	1-Sided Adj
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Gas Quality Reporting to air quality agencies. Air quality management districts have been asking for collection compilation and formal reporting of gas quality data from on-line Gas Chromatographs. SCAQMD Rule 433 adopted June 09. Increase covers one-time purchase and rotation of spare Gas Chromatograph and repair kits to minimize GC down time on transmission system. Assist in technical field troubleshooting of GC data posted hourly for CARB compliance.

2010	0	0	0	0	1.0	1-Sided Adj
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Gas Quality Reporting to air quality agencies. Air quality management districts have been asking for collection, compilation, and formal reporting of gas quality data from on-line Gas Chromatographs. SCAQMD Rule 433 adopted June 09. Increase covers staff time for preparing data for reporting to agencies. Assist in technical troubleshooting of GC data posted hourly for CARB compliance.

2010 Total	100	20	0	120	1.0	
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2011	100	0	0	100	0.0	1-Sided Adj
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Southern California Gas Company
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Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-2248.000 - Measurement & Regulation Standards, Materials, BTU Districts

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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Gas Quality Reporting to air quality agencies. Air quality management districts have been asking for collection, compilation, and formal reporting of gas quality data from on-line Gas Chromatographs. SCAQMD Rule 433 adopted June 09. Increase covers staff time for preparing data for reporting to agencies. Assist in technical troubleshooting of GC data posted hourly for CARB compliance.

2011	0	5	0	5	0.0	1-Sided Adj
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Gas Quality Reporting to air quality agencies. Air quality management districts have been asking for collection compilation and formal reporting of gas quality data from on-line Gas Chromatographs. SCAQMD Rule 433 adopted June 09. Increase covers expenses such as mileage, travel for new position.

2011	0	0	0	0	1.0	1-Sided Adj
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Gas Quality Reporting to air quality agencies. Air quality management districts have been asking for collection compilation and formal reporting of gas quality data from on-line Gas Chromatographs. SCAQMD Rule 433 adopted June 09. Increase covers additional staff for preparing data for reporting to agencies. Assist in technical field troubleshooting of GC data posted hourly for CARB compliance.

2011 Total	100	5	0	105	1.0	
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2012	100	0	0	100	0.0	1-Sided Adj
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Gas Quality Reporting to air quality agencies. Air quality management districts have been asking for collection, compilation, and formal reporting of gas quality data from on-line Gas Chromatographs. SCAQMD Rule 433 adopted June 09. Increase covers staff time for preparing data for reporting to agencies. Assist in technical troubleshooting of GC data posted hourly for CARB compliance.

2012	0	5	0	5	0.0	1-Sided Adj
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Gas Quality Reporting to air quality agencies. Air quality management districts have been asking for collection compilation and formal reporting of gas quality data from on-line Gas Chromatographs. SCAQMD Rule 433 adopted June 09. Increase covers expenses such as mileage, travel for new position.

2012	0	0	0	0	1.0	1-Sided Adj
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Gas Quality Reporting to air quality agencies. Air quality management districts have been asking for collection compilation and formal reporting of gas quality data from on-line Gas Chromatographs. SCAQMD Rule 433 adopted June 09. Increase covers additional staff for preparing data for reporting to agencies. Assist in technical field troubleshooting of GC data posted hourly for CARB compliance.

Southern California Gas Company
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Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-2248.000 - Measurement & Regulation Standards, Materials, BTU Districts

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2012 Total	100	5	0	105	1.0	

Southern California Gas Company
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Category: A. General Engineering
Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
Cost Center: 2200-2248.000 - Measurement & Regulation Standards, Materials, BTU Districts

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	326	278	365
Non-Labor	0	0	3	15	10
NSE	0	0	0	0	0
Total	0	0	330	293	375
FTE	0.0	0.0	4.1	3.2	4.2
Adjustments (Nominal \$) **					
Labor	229	275	0	0	0
Non-Labor	12	0	0	0	0
NSE	0	0	0	0	0
Total	241	275	0	0	0
FTE	3.2	4.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	229	275	326	278	365
Non-Labor	12	0	3	15	10
NSE	0	0	0	0	0
Total	241	275	330	293	375
FTE	3.2	4.0	4.1	3.2	4.2
Vacation & Sick (Nominal \$)					
Labor	39	49	57	54	66
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	39	49	57	54	66
FTE	0.6	0.7	0.7	0.6	0.8
Escalation to 2009\$					
Labor	33	29	21	5	0
Non-Labor	1	0	0	0	0
NSE	0	0	0	0	0
Total	35	29	22	5	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	301	353	405	337	430
Non-Labor	13	0	3	15	10
NSE	0	0	0	0	0
Total	314	353	408	352	441
FTE	3.8	4.7	4.8	3.8	5.0

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-2248.000 - Measurement & Regulation Standards, Materials, BTU Districts

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
Labor	229	275	0	0	0
Non-Labor	12	0	0	0	0
NSE	0	0	0	0	0
Total	241	275	0	0	0
FTE	3.2	4.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year/Expl.	Labor	NLbr	NSE	FTE	Adi Type	From CCtr	RefID
2005	135	0	0	0.0	CCTR Transf	From 2200-0309.000	TPGL20091112 163325190
Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2005	0	6	0	0.0	CCTR Transf	From 2200-0309.000	TPGL20091112 163417737
Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2005	0	0	0	2.0	CCTR Transf	From 2200-0309.000	TPGL20091112 163908303
Transfer FTEs for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2005	93	0	0	0.0	CCTR Transf	From 2200-0310.000	TPGL20091112 164214463
Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							
2005	0	6	0	0.0	CCTR Transf	From 2200-0310.000	TPGL20091112 164252950
Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.							

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 2. Gas Measurement, Regulation & Pressure Control
 Cost Center: 2200-2248.000 - Measurement & Regulation Standards, Materials, BTU Districts

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005	0	0	0	1.2	CCTR Transf	From 2200-0310.000	TPLGL20091112 164353357

Transfer FTEs for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.

2005 Total	229	12	0	3.2			
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2006	214	0	0	0.0	CCTR Transf	From 2200-0309.000	TPLGL20091112 164023447
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Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.

2006	0	0	0	3.0	CCTR Transf	From 2200-0309.000	TPLGL20091112 164105603
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Transfer FTEs for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.

2006	61	0	0	0.0	CCTR Transf	From 2200-0310.000	TPLGL20091112 164443360
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Transfer expenditures for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.

2006	0	0	0	1.0	CCTR Transf	From 2200-0310.000	TPLGL20091112 164532563
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Transfer FTEs for activities that were moved to Cost Ctr 2200-2248, which was opened during 2007. This adjustment positions both cost centers to better reflect their ongoing activities and provides for a more accurate forecast of future resource requirements.

2006 Total	275	0	0	4.0			
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2007 Total	0	0	0	0.0			
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2008 Total	0	0	0	0.0			
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2009 Total	0	0	0	0.0			
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Beginning of Workpaper
2200-1178.000 - EAC Chemical Section

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 3. Engineering Analysis Center
Cost Center: 2200-1178.000 - EAC Chemical Section

Activity Description:

The Engineering Analysis Center Chemical section provides environmental, gas operation, and Btu measurement related analytical services to the operating and customer services organizations. These activities include: - PCB analysis and sample management, hazardous material, gas quality policy and operating procedures, gas composition including inerts through C22+ and HC & H2O dew point, simulated distillation through C40+, sulfur gas analysis, odorization management and test development, line odor seasoning management and training, gas quality testing including, mobile gas operations test vehicle, Btu measurement services, Fugitive and Leakage Gas identification and Verification.

Forecast Methodology:

Labor - 5-YR Average

Historical data show that labor expenses have remained relatively steady for this organization. This trend is expected to continue assuming activity levels are maintained at current levels. As such, the 5 year average forecast methodology was chosen to best represent a base level for funding requirements moving forward. Incremental activity levels for gas quality testing, pipeline odorant administration and testing, increases in pipeline integrity generated test samples, and new BTU districts are the key drivers in adjustments needed the historical average.

Non-Labor - 5-YR Average

The activities that the Chemical Section has performed in the past are expected to remain at their current levels. The 5 year average of these expenses is the best indication of the required funding level to maintain the historic level of activities. There are new incremental activities requested of the organization which will require additional resources. Incremental activity levels for gas quality testing, pipeline odorant administration and testing, increases in pipeline integrity generated test samples, and new BTU districts are the key drivers in adjustments needed the historical average. These incremental funding resources are added to the 5 year average to provide the forecasted needs through the foreseeable future.

NSE - 5-YR Average

There are no Non-Standard Escalation expenses in this cost center.

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 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 3. Engineering Analysis Center
 Cost Center: 2200-1178.000 - EAC Chemical Section

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		954	1,041	1,007	940	1,027	1,069	1,183	1,221
Non-Labor		189	231	158	178	153	213	229	245
NSE		0	0	0	0	0	0	0	0
Total		1,143	1,272	1,165	1,118	1,180	1,282	1,412	1,466
FTE		12.3	13.1	12.4	11.9	12.5	13.4	14.9	15.4
		Allocations Out							
Labor		0	0	0	0	19	20	22	23
Non-Labor		0	0	0	0	3	3	3	3
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	22	23	25	26
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		954	1,041	1,007	940	1,008	1,049	1,161	1,198
Non-Labor		189	231	158	178	150	210	226	242
NSE		0	0	0	0	0	0	0	0
Total		1,143	1,272	1,165	1,118	1,158	1,259	1,387	1,440
FTE		12.3	13.1	12.4	11.9	12.5	13.4	14.9	15.4
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		954	1,041	1,007	940	1,008	1,049	1,161	1,198
Non-Labor		189	231	158	178	150	210	226	242
NSE		0	0	0	0	0	0	0	0
Total		1,143	1,272	1,165	1,118	1,158	1,259	1,387	1,440
FTE		12.3	13.1	12.4	11.9	12.5	13.4	14.9	15.4

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Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 3. Engineering Analysis Center
Cost Center: 2200-1178.000 - EAC Chemical Section

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	12	1	0	13	0.00	8	4	0	12	0.10
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	1,015	152	0	1,167	12.50	1,061	209	0	1,270	13.30
% Allocation										
Retained	98.09%	98.09%				98.19%	98.19%			
SEU	1.91%	1.91%				1.81%	1.81%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	996	149	0	1,145		1,041	206	0	1,247	
SEU	19	3	0	22		20	3	0	23	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	1,027	153	0	1,180	12.50	1,069	213	0	1,282	13.40
Total Alloc. Out	19	3	0	22		20	3	0	23	
Total Retained	1,008	150	0	1,158		1,049	210	0	1,259	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	1,008	150	0	1,158		1,049	210	0	1,259	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	8	4	0	12	0.10	8	4	0	12	0.10
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	1,175	225	0	1,400	14.80	1,213	241	0	1,454	15.30
% Allocation										
Retained	98.19%	98.19%				98.19%	98.19%			
SEU	1.81%	1.81%				1.81%	1.81%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	1,153	222	0	1,375		1,190	238	0	1,428	
SEU	22	3	0	25		23	3	0	26	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	1,183	229	0	1,412	14.90	1,221	245	0	1,466	15.40
Total Alloc. Out	22	3	0	25		23	3	0	26	
Total Retained	1,161	226	0	1,387		1,198	242	0	1,440	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	1,161	226	0	1,387		1,198	242	0	1,440	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 3. Engineering Analysis Center
Cost Center: 2200-1178.000 - EAC Chemical Section

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Services to be provided are estimated at a total of 500 hours of combined effort by Laboratory Technicians, Measurement Technicians, Engineers and Senior Engineers at an average of \$36.50 per hour; (Average salary of 76000 per year= $76000/2080=36.54$). Total amount to allocate is \$18,250 ($500*36.5=18250$). The percentage of the organizational budget is then calculated as $18250/950880=.01919275$, or 1.92%.

Cost Center Allocation Percentage for 2010

Services to be provided are estimated at a total of 500 hours of combined effort by Laboratory Technicians, Measurement Technicians, Engineers and Senior Engineers at an average of \$37.50 per hour; (Average salary of 78000 per year= $78000/2080=37.50$). Total amount to allocate is \$18,750 ($500*37.5=18750$). The percentage of the organizational budget is then calculated as $18750/1033804=.0181369$, or 1.81%.

Cost Center Allocation Percentage for 2011

Services to be provided are estimated at a total of 500 hours of combined effort by Laboratory Technicians, Measurement Technicians, Engineers and Senior Engineers at an average of \$37.50 per hour; (Average salary of 78000 per year= $78000/2080=37.50$). Total amount to allocate is \$18,750 ($500*37.5=18750$). The percentage of the organizational budget is then calculated as $18750/1033804=.0181369$, or 1.81%.

Cost Center Allocation Percentage for 2012

Services to be provided are estimated at a total of 500 hours of combined effort by Laboratory Technicians, Measurement Technicians, Engineers and Senior Engineers at an average of \$37.50 per hour; (Average salary of 78000 per year= $78000/2080=37.50$). Total amount to allocate is \$18,750 ($500*37.5=18750$). The percentage of the organizational budget is then calculated as $18750/1033804=.0181369$, or 1.81%.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 3. Engineering Analysis Center
 Cost Center: 2200-1178.000 - EAC Chemical Section

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	5-YR Average	993	993	993	76	190	228	1,069	1,183	1,221
Non-Labor	5-YR Average	181	181	181	32	48	64	213	229	245
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		1,174	1,174	1,174	108	238	292	1,282	1,412	1,466
FTE	5-YR Average	12.4	12.4	12.4	1.0	2.5	3.0	13.4	14.9	15.4

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	38	0	0	38	0.0	1-Sided Adj

Increased work (1/2 FTE) to support testing required for direct corrosion assessment program and testing of liquids and solids generated from pigging operations and pipeline liquids.

2010	0	16	0	16	0.0	1-Sided Adj
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Non-Labor-Screening kits, Employee Expense due to Increased work to support testing required for direct corrosion assessment program and testing of liquids and solids generated from pigging operations and pipeline liquids.

2010	0	0	0	0	0.5	1-Sided Adj
------	---	---	---	---	-----	-------------

Increased work (1/2 FTE) to support testing required for direct corrosion assessment program and testing of liquids and solids generated from pigging operations and pipeline liquids.

2010	38	0	0	38	0.0	1-Sided Adj
------	----	---	---	----	-----	-------------

Additional 1/2 FTE for Increased testing & equipment (additional GCs) maintenance due the restructuring and creation of new of BTU Districts and replacing sample bottles with GCs.

2010	0	0	0	0	0.5	1-Sided Adj
------	---	---	---	---	-----	-------------

Additional 1/2 FTE for Increased testing & equipment (additional GCs) maintenance due the restructuring and creation of new of BTU Districts and replacing sample bottles with GCs.

2010	0	16	0	16	0.0	1-Sided Adj
------	---	----	---	----	-----	-------------

Non-Labor-Employee Expense, Calibration Gases due to increased testing & equipment (additional GCs) maintenance due the restructuring and creation of new of BTU Districts and replacing sample bottles with GCs.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 3. Engineering Analysis Center
 Cost Center: 2200-1178.000 - EAC Chemical Section

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2010 Total	76	32	0	108	1.0	
2011	38	0	0	38	0.0	1-Sided Adj
	Increased work (1.2 fte) to support testing required for direct corrosion assessment program and testing of liquids and solids generated from pigging operations and pipeline liquids.					
2011	0	16	0	16	0.0	1-Sided Adj
	Non-Labor-Screening kits, Employee Expense due to Increased work to support testing required for direct corrosion assessment program and testing of liquids and solids generated from pigging operations and pipeline liquids.					
2011	0	0	0	0	0.5	1-Sided Adj
	Increased work (1.2 fte) to support testing required for direct corrosion assessment program and testing of liquids and solids generated from pigging operations and pipeline liquids.					
2011	38	0	0	38	0.0	1-Sided Adj
	Additional 1/2 FTE for Increased testing & equipment (additional GCs) maintenance due the restructuring and creation of new of BTU Districts and replacing sample bottles with GCs.					
2011	0	0	0	0	0.5	1-Sided Adj
	Additional 1/2 FTE for Increased testing & equipment (additional GCs) maintenance due the restructuring and creation of new of BTU Districts and replacing sample bottles with GCs.					
2011	0	16	0	16	0.0	1-Sided Adj
	Non-Labor-Employee Expense, Calibration Gases due to increased testing & equipment (additional GCs) maintenance due the restructuring and creation of new of BTU Districts and replacing sample bottles with GCs.					
2011	0	16	0	16	0.0	1-Sided Adj
	Non-Labor-Employee Expense, Calibration Gases, Reagents, Solvents due to changes in internal policy (Gas standard 142.5660) and 3rd party line pickling work.					
2011	114	0	0	114	0.0	1-Sided Adj
	Increased work load (1.5 FTE) due to changes in internal policy (Gas standard 142.5660) and 3rd party line pickling work.					
2011	0	0	0	0	1.5	1-Sided Adj

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 3. Engineering Analysis Center
 Cost Center: 2200-1178.000 - EAC Chemical Section

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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Increased work load (1.5 FTE) due to changes in internal policy (Gas standard 142.5660 and AGA safety information bulletins 0904 and 0911) and 3rd party line pickling work.

2011 Total	190	48	0	238	2.5	
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2012	38	0	0	38	0.0	1-Sided Adj
------	----	---	---	----	-----	-------------

Gas Quality Testing - Compliance - 1/2 FTE New biogas producers will increase Rule 30 acceptance testing and will require additional trace constituents method developments, equipment, and monitoring.

2012	0	16	0	16	0.0	1-Sided Adj
------	---	----	---	----	-----	-------------

Gas Quality Testing - Compliance - Non-Labor-Employee Expense, Calibration Gases, Reagents, Solvents.

2012	0	0	0	0	0.5	1-Sided Adj
------	---	---	---	---	-----	-------------

Gas Quality Testing - Compliance - 1/2 FTE New biogas producers will increase Rule 30 acceptance testing and will require additional trace constituents method developments, equipment, and monitoring.

2012	114	0	0	114	0.0	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Increased work load (1.5 FTE) due to changes in internal policy (Gas standard 142.5660) and 3rd party line pickling work.

2012	0	16	0	16	0.0	1-Sided Adj
------	---	----	---	----	-----	-------------

Non-Labor-Employee Expense, Calibration Gases, Reagents, Solvents due to changes in internal policy (Gas standard 142.5660) and 3rd party line pickling work.

2012	0	0	0	0	1.5	1-Sided Adj
------	---	---	---	---	-----	-------------

Increased work load (1.5 FTE) due to changes in internal policy (Gas standard 142.5660 and AGA safety information bulletins 0904 and 0911) and 3rd party line pickling work.

2012	38	0	0	38	0.0	1-Sided Adj
------	----	---	---	----	-----	-------------

Increased work (1.2 fte) to support testing required for direct corrosion assessment program and testing of liquids and solids generated from pigging operations and pipeline liquids.

2012	0	16	0	16	0.0	1-Sided Adj
------	---	----	---	----	-----	-------------

Non-Labor-Screening kits, Employee Expense due to Increased work to support testing required for direct corrosion assessment program and testing of liquids and solids generated from pigging operations and pipeline liquids.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 3. Engineering Analysis Center
 Cost Center: 2200-1178.000 - EAC Chemical Section

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2012	0	0	0	0	0.5	1-Sided Adj
Increased work (1/2 fte) to support testing required for direct corrosion assessment program and testing of liquids and solids generated from pigging operations and pipeline liquids.						
2012	38	0	0	38	0.0	1-Sided Adj
Additional 1/2 FTE for Increased testing & equipment (additional GCs) maintenance due the restructuring and creation of new of BTU Districts and replacing sample bottles with GCs.						
2012	0	0	0	0	0.5	1-Sided Adj
Additional 1/2 FTE for Increased testing & equipment (additional GCs) maintenance due the restructuring and creation of new of BTU Districts and replacing sample bottles with GCs.						
2012	0	16	0	16	0.0	1-Sided Adj
Non-Labor-Employee Expense, Calibration Gases due to increased testing & equipment (additional GCs) maintenance due the restructuring and creation of new of BTU Districts and replacing sample bottles with GCs.						
2012 Total	228	64	0	292	3.0	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 3. Engineering Analysis Center
Cost Center: 2200-1178.000 - EAC Chemical Section

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	724	810	812	776	870
Non-Labor	168	212	150	175	154
NSE	0	0	0	0	0
Total	892	1,022	961	951	1,024
FTE	10.3	11.0	10.5	9.9	10.5
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	724	810	812	776	870
Non-Labor	168	212	150	175	154
NSE	0	0	0	0	0
Total	892	1,022	961	951	1,024
FTE	10.4	11.0	10.5	9.9	10.5
Vacation & Sick (Nominal \$)					
Labor	124	145	142	150	157
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	124	145	142	150	157
FTE	1.9	2.1	1.9	2.0	2.0
Escalation to 2009\$					
Labor	105	85	53	14	0
Non-Labor	21	19	8	3	0
NSE	0	0	0	0	0
Total	126	104	62	16	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	953	1,040	1,007	940	1,028
Non-Labor	189	231	158	177	154
NSE	0	0	0	0	0
Total	1,142	1,271	1,165	1,117	1,181
FTE	12.3	13.1	12.4	11.9	12.5

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 3. Engineering Analysis Center
 Cost Center: 2200-1178.000 - EAC Chemical Section

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-0302.000 - Operations Technology Manager

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0302.000 - Operations Technology Manager

Activity Description:

This account includes Labor and expenses associated with the Manager of Operations Technology department and two administrative support individuals. Activities managed include: systems for management, administration, review and publishing of gas standards, Formal Communication Documents (FCDs), other company documents in SoCalGas' and SDG&E's online intranet websites. Also included are costs associated with creating and maintaining intranet websites for various organizations including Safety, Distribution, Customer Service, Environmental, Transmission and Engineering. Manager also oversees groups whose activities include Work Management & data development; GIS applications, CADD applications, Land and project mapping services, Land survey and geographic analysis.

Forecast Methodology:

Labor - Base YR Rec

The structure of this cost center has evolved over recent history. Activities within the Ops Tech organization have been re-organized due to changing activities and leveraging synergies. It is expected that the current base year requirements will be adequate for this organization in the future.

Non-Labor - Base YR Rec

The structure of this cost center has evolved over recent history. Activities within the Ops Tech organization have been re-organized due to changing activities and leveraging synergies. It is expected that the current base year requirements will be adequate for this organization in the future.

NSE - Base YR Rec

There are no non-standard escalation expenses in this cost center.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 4. Asset and Data Management
 Cost Center: 2200-0302.000 - Operations Technology Manager

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		539	439	323	248	233	233	233	233
Non-Labor		988	867	949	250	11	11	11	11
NSE		0	0	0	0	0	0	0	0
Total		1,527	1,306	1,272	498	244	244	244	244
FTE		7.4	6.0	4.4	3.4	3.1	3.1	3.1	3.1
		Allocations Out							
Labor		35	15	6	6	4	13	13	13
Non-Labor		2	29	19	7	0	1	1	1
NSE		0	0	0	0	0	0	0	0
Total		37	44	25	13	4	14	14	14
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		504	424	317	242	229	220	220	220
Non-Labor		986	838	930	243	11	10	10	10
NSE		0	0	0	0	0	0	0	0
Total		1,490	1,262	1,247	485	240	230	230	230
FTE		7.4	6.0	4.4	3.4	3.1	3.1	3.1	3.1
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		504	424	317	242	229	220	220	220
Non-Labor		986	838	930	243	11	10	10	10
NSE		0	0	0	0	0	0	0	0
Total		1,490	1,262	1,247	485	240	230	230	230
FTE		7.4	6.0	4.4	3.4	3.1	3.1	3.1	3.1

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 4. Asset and Data Management
 Cost Center: 2200-0302.000 - Operations Technology Manager

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	233	11	0	244	3.10	233	11	0	244	3.10
% Allocation										
Retained	98.08%	98.08%				94.40%	94.40%			
SEU	1.92%	1.92%				5.60%	5.60%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	229	11	0	240		220	10	0	230	
SEU	4	0	0	4		13	1	0	14	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	233	11	0	244	3.10	233	11	0	244	3.10
Total Alloc. Out	4	0	0	4		13	1	0	14	
Total Retained	229	11	0	240		220	10	0	230	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	229	11	0	240		220	10	0	230	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	233	11	0	244	3.10	233	11	0	244	3.10
% Allocation										
Retained	94.40%	94.40%				94.40%	94.40%			
SEU	5.60%	5.60%				5.60%	5.60%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	220	10	0	230		220	10	0	230	
SEU	13	1	0	14		13	1	0	14	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	233	11	0	244	3.10	233	11	0	244	3.10
Total Alloc. Out	13	1	0	14		13	1	0	14	
Total Retained	220	10	0	230		220	10	0	230	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	220	10	0	230		220	10	0	230	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0302.000 - Operations Technology Manager

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Reallocation is based on salaries for two employees whose combined salaries total \$170,000 per year to support 4 FTEs, or 5.33% of the entire departmental staff; ($4/75=.05333$). Total amount to be allocated is \$9,066, ($170000*.05333=9066$). Percentages for the allocated dollars are then calculated as their portion of the Cost Center totals for Labor and Nonlabor dollars. Total to reallocate is ~\$9,066 ($9066/471840=.01921$, or 1.92%).

Cost Center Allocation Percentage for 2010

Department was reorganized in 2010 which impacted Shared Service allocation percentage calculations. This Cost Center includes salaries for the department Manager and administrative support. The Shared Services % is calculated based on the data from all its Cost Centers other than the one for the Manager and his administrative support (2200-0302). The Shared Services percentage for 2200-0302 is calculated as the ratio between total Operations Technology labor dollars and the actual dollars earmarked for Shared Service allocation. In this case, the assumption is that if dollars to be allocated are 6.4% of all of labor the dollars expended, then 6.4% is the appropriate figure for the supervision and administrative support of those dollars. (Total Labor dollars subject to allocation for all Ops Tech Cost Centers is estimated at \$289,388.29. Total Labor \$s estimated for allocation for 2010 based on methodology developed and applied to each individual Cost Center in Ops Tech is \$4,519,814. $289388.29/4519814=.064026593$, or 6.4%). This 6.4% is then applied to the salaries of the two employees providing support to the utility allocation. Salaries total \$175.1K ($175100*.04026593=11211.05638$). The percentage of the organizational budget is then calculated as $11211.05638/200101=.056026988$, or 5.6%.

Cost Center Allocation Percentage for 2011

This Cost Center includes salaries for the department Manager and administrative support. The Shared Services % is calculated based on the data from all its Cost Centers other than the one for the Manager and his administrative support (2200-0302). The Shared Services percentage for 2200-0302 is calculated as the ratio between total Operations Technology labor dollars and the actual dollars earmarked for Shared Service allocation. In this case, the assumption is that if dollars to be allocated are 6.4% of all of labor the dollars expended, then 6.4% is the appropriate figure for the supervision and administrative support of those dollars. (Total Labor dollars subject to allocation for all Ops Tech Cost Centers is estimated at \$289,388.29. Total Labor \$s estimated for allocation for 2010 based on methodology developed and applied to each individual Cost Center in Ops Tech is \$4,519,814. $289388.29/4519814=.064026593$, or 6.4%). This 6.4% is then applied to the salaries of the two employees providing support to the utility allocation. Salaries total \$175.1K ($175100*.04026593=11211.05638$). The percentage of the organizational budget is then calculated as $11211.05638/200101=.056026988$, or 5.6%.

Cost Center Allocation Percentage for 2012

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0302.000 - Operations Technology Manager

This Cost Center includes salaries for the department Manager and administrative support. The Shared Services % is calculated based on the data from all its Cost Centers other than the one for the Manager and his administrative support (2200-0302). The Shared Services percentage for 2200-0302 is calculated as the ratio between total Operations Technology labor dollars and the actual dollars earmarked for Shared Service allocation. In this case, the assumption is that if dollars to be allocated are 6.4% of all of labor the dollars expended, then 6.4% is the appropriate figure for the supervision and administrative support of those dollars. (Total Labor dollars subject to allocation for all Ops Tech Cost Centers is estimated at \$289,388.29. Total Labor \$s estimated for allocation for 2010 based on methodolgy developed and applied to each individual Cost Center in Ops Tech is \$4,519,814. $289388.29/4519814=.064026593$, or 6.4%). This 6.4% is then applied to the salaries of the two employees providing support to the utility allocation. Salaries total \$175.1K ($175100*.04026593=11211.05638$). The percentage of the organizational budget is then calculated as $11211.05638/200101=.056026988$, or 5.6%.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 4. Asset and Data Management
 Cost Center: 2200-0302.000 - Operations Technology Manager

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Base YR Rec	233	233	233	0	0	0	233	233	233
Non-Labor	Base YR Rec	11	11	11	0	0	0	11	11	11
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		244	244	244	0	0	0	244	244	244
FTE	Base YR Rec	3.1	3.1	3.1	0.0	0.0	0.0	3.1	3.1	3.1

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	

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Area: ENGINEERING
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Category: A. General Engineering
Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0302.000 - Operations Technology Manager

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	410	342	261	205	197
Non-Labor	880	797	899	246	11
NSE	0	0	0	0	0
Total	1,289	1,139	1,159	450	208
FTE	6.3	5.1	3.7	2.8	2.6
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	410	342	261	205	197
Non-Labor	880	797	899	246	11
NSE	0	0	0	0	0
Total	1,289	1,139	1,159	450	208
FTE	6.3	5.1	3.7	2.8	2.6
Vacation & Sick (Nominal \$)					
Labor	70	61	45	39	36
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	70	61	45	39	36
FTE	1.1	0.9	0.7	0.6	0.5
Escalation to 2009\$					
Labor	60	36	17	4	0
Non-Labor	109	71	50	4	0
NSE	0	0	0	0	0
Total	169	107	68	7	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	539	439	323	248	233
Non-Labor	989	868	949	250	11
NSE	0	0	0	0	0
Total	1,528	1,307	1,273	497	244
FTE	7.4	6.0	4.4	3.4	3.1

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
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Area: ENGINEERING
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 Cost Center: 2200-0302.000 - Operations Technology Manager

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-0306.000 - Work Management & Databases

Southern California Gas Company
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Area: ENGINEERING
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Category: A. General Engineering
Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0306.000 - Work Management & Databases

Activity Description:

Activities associated with this cost center include the support of Work Management Systems for Meter and Regulation (M&R), System Protection Specialists (SPS) and Work Order Tracking (WOT) applications. Also the support of the Technical Services Group in Miramar; specifically the Electronic Data Management System (EDMS) and the Cathodic Protection Data Management (CPDM) applications

Forecast Methodology:

Labor - Base YR Rec

The structure of this cost center has evolved over recent history. Activities within the Ops Tech organization have been re-organized due to changing activities and leveraging synergies. It is expected that the current base year requirements will be adequate for this organization in the future.

Non-Labor - Base YR Rec

The structure of this cost center has evolved over recent history. Activities within the Ops Tech organization have been re-organized due to changing activities and leveraging synergies. It is expected that the current base year requirements will be adequate for this organization in the future. Incremental additions have been included to the base year foundation for one time expenses.

NSE - Base YR Rec

There are no Non-Standard Escalation expenses in this cost center.

Southern California Gas Company
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Area: ENGINEERING
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 Category: A. General Engineering
 Category-Sub: 4. Asset and Data Management
 Cost Center: 2200-0306.000 - Work Management & Databases

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		332	294	260	329	493	433	433	433
Non-Labor		56	60	16	8	18	218	18	18
NSE		0	0	0	0	0	0	0	0
Total		388	354	276	337	511	651	451	451
FTE		3.9	3.3	3.4	4.8	6.9	5.9	5.9	5.9
		Allocations Out							
Labor		6	10	6	10	28	26	26	26
Non-Labor		1	2	0	0	1	13	1	1
NSE		0	0	0	0	0	0	0	0
Total		7	12	6	10	29	39	27	27
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		326	284	254	319	465	407	407	407
Non-Labor		55	58	16	8	17	205	17	17
NSE		0	0	0	0	0	0	0	0
Total		381	342	270	327	482	612	424	424
FTE		3.9	3.3	3.4	4.8	6.9	5.9	5.9	5.9
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		326	284	254	319	465	407	407	407
Non-Labor		55	58	16	8	17	205	17	17
NSE		0	0	0	0	0	0	0	0
Total		381	342	270	327	482	612	424	424
FTE		3.9	3.3	3.4	4.8	6.9	5.9	5.9	5.9

Southern California Gas Company
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 Cost Center: 2200-0306.000 - Work Management & Databases

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	2	0	0	2	0.00	2	0	0	2	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	491	18	0	509	6.90	431	218	0	649	5.90
% Allocation										
Retained	94.22%	94.22%				94.19%	94.19%			
SEU	5.78%	5.78%				5.81%	5.81%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	463	17	0	480		405	205	0	610	
SEU	28	1	0	29		26	13	0	39	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	493	18	0	511	6.90	433	218	0	651	5.90
Total Alloc. Out	28	1	0	29		26	13	0	39	
Total Retained	465	17	0	482		407	205	0	612	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	465	17	0	482		407	205	0	612	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	2	0	0	2	0.00	2	0	0	2	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	431	18	0	449	5.90	431	18	0	449	5.90
% Allocation										
Retained	94.19%	94.19%				94.19%	94.19%			
SEU	5.81%	5.81%				5.81%	5.81%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	405	17	0	422		405	17	0	422	
SEU	26	1	0	27		26	1	0	27	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	433	18	0	451	5.90	433	18	0	451	5.90
Total Alloc. Out	26	1	0	27		26	1	0	27	
Total Retained	407	17	0	424		407	17	0	424	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	407	17	0	424		407	17	0	424	

Southern California Gas Company
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Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0306.000 - Work Management & Databases

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Calculations are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2007 filing submitted in February of 2008. SDG&E Transmission pipe totaled 243 miles. SoCal Gas had 3961 miles of Transmission pipe for a total of 4204 miles for both utilities. (243+3961=4204 miles. $243/4204=.057802$. $3961/4204=.942197$) Percentages based on the most current filing is 5.78% for SDG&E and 94.22% for SoCal Gas.

Cost Center Allocation Percentage for 2010

Calculations are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2008 filing submitted in February of 2009. SDG&E Transmission pipe totaled 242 miles. SoCal Gas had 3999 miles of Transmission pipe for a total of 4241 miles for both utilities. (242+3999=4241 miles. $242/4241=.0571$. $3999/4241=.9429$) Percentages based on the most current filing is 5.71% for SDG&E and 94.29% for SoCal Gas.

Cost Center Allocation Percentage for 2011

Calculations are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2008 filing submitted in February of 2009. SDG&E Transmission pipe totaled 242 miles. SoCal Gas had 3999 miles of Transmission pipe for a total of 4241 miles for both utilities. (242+3999=4241 miles. $242/4241=.0571$. $3999/4241=.9429$) Percentages based on the most current filing is 5.71% for SDG&E and 94.29% for SoCal Gas.

Cost Center Allocation Percentage for 2012

Calculations are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2008 filing submitted in February of 2009. SDG&E Transmission pipe totaled 242 miles. SoCal Gas had 3999 miles of Transmission pipe for a total of 4241 miles for both utilities. (242+3999=4241 miles. $242/4241=.0571$. $3999/4241=.9429$) Percentages based on the most current filing is 5.71% for SDG&E and 94.29% for SoCal Gas.

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 Cost Center: 2200-0306.000 - Work Management & Databases

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Base YR Rec	493	493	493	-60	-60	-60	433	433	433
Non-Labor	Base YR Rec	18	18	18	200	0	0	218	18	18
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		511	511	511	140	-60	-60	651	451	451
FTE	Base YR Rec	6.9	6.9	6.9	-1.0	-1.0	-1.0	5.9	5.9	5.9

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	-60	0	0	-60	0.0	1-Sided Adj
Changing work load and internal re-organization, this cost center downsized by one position beginning in 2010.						
2010	0	0	0	0	-1.0	1-Sided Adj
Changing work load and internal re-organization, this cost center downsized by one position beginning in 2010.						
2010	0	200	0	200	0.0	1-Sided Adj
Upgrade to MAXIMO software - Maximo will no longer support current version that SCG/SDGE is using. Must upgrade to continue with manufacturers support.						
2010 Total	-60	200	0	140	-1.0	

2011	-60	0	0	-60	0.0	1-Sided Adj
Changing work load and internal re-organization, this cost center downsized by one position beginning in 2010.						
2011	0	0	0	0	-1.0	1-Sided Adj
Changing work load and internal re-organization, this cost center downsized by one position beginning in 2010.						
2011 Total	-60	0	0	-60	-1.0	

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 Cost Center: 2200-0306.000 - Work Management & Databases

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2012	-60	0	0	-60	0.0	1-Sided Adj
Changing work load and internal re-organization, this cost center downsized by one position beginning in 2010.						
2012	0	0	0	0	-1.0	1-Sided Adj
Changing work load and internal re-organization, this cost center downsized by one position beginning in 2010.						
2012 Total	-60	0	0	-60	-1.0	

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Cost Center: 2200-0306.000 - Work Management & Databases

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	252	229	210	271	418
Non-Labor	50	55	15	8	18
NSE	0	0	0	0	0
Total	302	284	224	279	436
FTE	3.3	2.8	2.9	4.0	5.8
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	252	229	210	271	418
Non-Labor	50	55	15	8	18
NSE	0	0	0	0	0
Total	302	284	224	279	436
FTE	3.3	2.8	2.9	4.0	5.8
Vacation & Sick (Nominal \$)					
Labor	43	41	37	52	76
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	43	41	37	52	76
FTE	0.6	0.5	0.5	0.8	1.1
Escalation to 2009\$					
Labor	37	24	14	5	0
Non-Labor	6	5	1	0	0
NSE	0	0	0	0	0
Total	43	29	15	5	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	332	294	260	328	494
Non-Labor	56	60	15	8	18
NSE	0	0	0	0	0
Total	388	354	275	336	512
FTE	3.9	3.3	3.4	4.8	6.9

* After company-wide exclusions of Non-GRC costs

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

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 Cost Center: 2200-0306.000 - Work Management & Databases

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-0307.000 - Website/ Database/ Sever Support

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0307.000 - Website/ Database/ Sever Support

Activity Description:

Expenditures covered in this account include the labor costs of database administrators, project managers, and project specialists that support servers, applications and databases for both utilities. Operations Technology maintains, manages, and administers approximately eighty servers that support the systems and applications of various organizations at SCG and SDG&E. This account also includes expenses associated with the management, administration, review and publishing of gas standards, Formal Communication Documents (FCDs), and other company documents in SoCalGas' and SDG&E's online Intranet Sites. Also included are costs associated with creating and maintaining Intranet websites for various organizations, including Safety, Distribution, Customer Service, Environmental, Transmission and Engineering.

Forecast Methodology:

Labor - Base YR Rec

As with other Ops Tech cost centers, there have been organizational movement in this cost center in recent history. Base year 2009 is chosen as the forecast method through this rate case cycle as the current organizational structure is expected to be constant and will meet the current activity requirements.

Non-Labor - Base YR Rec

As with other Ops Tech cost centers, there have been organizational movement in this cost center in recent history. Base year 2009 is chosen as the forecast method through this rate case cycle as the current organizational structure is expected to be constant and will meet the current activity requirements.

NSE - Base YR Rec

There are no NSE expenses in this cost center.

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Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0307.000 - Website/ Database/ Sever Support

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		573	507	535	426	554	554	554	554
Non-Labor		93	42	64	17	7	7	7	7
NSE		0	0	0	0	0	0	0	0
Total		666	549	599	443	561	561	561	561
FTE		7.2	6.4	6.5	5.6	7.2	7.2	7.2	7.2
		Allocations Out							
Labor		0	0	0	66	132	103	103	103
Non-Labor		0	0	0	3	2	1	1	1
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	69	134	104	104	104
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		573	507	535	360	422	451	451	451
Non-Labor		93	42	64	14	5	6	6	6
NSE		0	0	0	0	0	0	0	0
Total		666	549	599	374	427	457	457	457
FTE		7.2	6.4	6.5	5.6	7.2	7.2	7.2	7.2
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		573	507	535	360	422	451	451	451
Non-Labor		93	42	64	14	5	6	6	6
NSE		0	0	0	0	0	0	0	0
Total		666	549	599	374	427	457	457	457
FTE		7.2	6.4	6.5	5.6	7.2	7.2	7.2	7.2

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Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0307.000 - Website/ Database/ Sever Support

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	22	0	0	22	0.20	22	0	0	22	0.20
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	532	7	0	539	7.00	532	7	0	539	7.00
% Allocation										
Retained	75.23%	75.23%				80.70%	80.70%			
SEU	24.77%	24.77%				19.30%	19.30%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	400	5	0	405		429	6	0	435	
SEU	132	2	0	134		103	1	0	104	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	554	7	0	561	7.20	554	7	0	561	7.20
Total Alloc. Out	132	2	0	134		103	1	0	104	
Total Retained	422	5	0	427		451	6	0	457	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	422	5	0	427		451	6	0	457	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	22	0	0	22	0.20	22	0	0	22	0.20
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	532	7	0	539	7.00	532	7	0	539	7.00
% Allocation										
Retained	80.70%	80.70%				80.70%	80.70%			
SEU	19.30%	19.30%				19.30%	19.30%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	429	6	0	435		429	6	0	435	
SEU	103	1	0	104		103	1	0	104	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	554	7	0	561	7.20	554	7	0	561	7.20
Total Alloc. Out	103	1	0	104		103	1	0	104	
Total Retained	451	6	0	457		451	6	0	457	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	451	6	0	457		451	6	0	457	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0307.000 - Website/ Database/ Sever Support

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Services provided to SDG&E are based on 10% of one Team Lead's time at a salary of \$93,150, 50% of one Technical Consultant at a salary of \$77,625, 10% each for three Technical Consultants at \$77,625 each, and 15% each for three Project Manager/Project Specialists' at an average salary of \$75,000, plus 12 trips to San Diego per year calculated @ 368 reimbursable miles per trip. Salary calculations equal \$105,165 , (or $9315 + 38812.5 + 23287.5 + 33750 = 105165.$) [$(93150*.1=9315) + (77625*.5=38812.5) + (77625*.1=7762.5*3=23287.5) + (75000*.15=11250*3=33750)$]. 17% is deducted to adjust for V&S, so 87282 is utilized ($105165*.83=87286.95$). Mileage totals \$2,230 ($12*368=4416$ miles @.505=\$2,230). Allocation should total ~\$89,517 or 87287+2230. The percentage of the organizational budget is then calculated as $87287/361280=.24878$, or 24.78%.

Cost Center Allocation Percentage for 2010

Services provided to SDG&E are based on 10% of one Team Lead's time at a salary of \$95,945, 50% of one Technical Consultant at a salary of \$79,954, 10% each for three Technical Consultants at \$79,954 each, and 15% each for three Project Manager/Project Specialists' at an average salary of \$77,250, plus 12 trips to San Diego per year calculated @ 368 reimbursable miles per trip. Salary calculations equal \$108,220 , (or $9494.5 + 39,977 + 23986.2 + 34,762.5 = 108220.2$) [$(94945*.1=9494.5) + (79954*.5=39977) + (79954*.1=7995.4*3=23986.2) + (77250*.15=11587.5*3=34762.5)$]. 17% is deducted to adjust for V&S, so 89823 is utilized for salary calculation, ($108220.2*.83=89822.77$). Mileage totals \$2,230 ($12*368=4416$ miles @.55=\$2,428.8). Allocation should total ~\$92,252 or 89823+2429. The percentage of the organizational budget is then calculated as $92252/478089=.192959888$, or 19.3%.

Cost Center Allocation Percentage for 2011

Services provided to SDG&E are based on 10% of one Team Lead's time at a salary of \$95,945, 50% of one Technical Consultant at a salary of \$79,954, 10% each for three Technical Consultants at \$79,954 each, and 15% each for three Project Manager/Project Specialists' at an average salary of \$77,250, plus 12 trips to San Diego per year calculated @ 368 reimbursable miles per trip. Salary calculations equal \$108,220 , (or $9494.5 + 39,977 + 23986.2 + 34,762.5 = 108220.2$) [$(94945*.1=9494.5) + (79954*.5=39977) + (79954*.1=7995.4*3=23986.2) + (77250*.15=11587.5*3=34762.5)$]. 17% is deducted to adjust for V&S, so 89823 is utilized for salary calculation, ($108220.2*.83=89822.77$). Mileage totals \$2,230 ($12*368=4416$ miles @.55=\$2,428.8). Allocation should total ~\$92,252 or 89823+2429. The percentage of the organizational budget is then calculated as $92252/478089=.192959888$, or 19.3%.

Cost Center Allocation Percentage for 2012

Services provided to SDG&E are based on 10% of one Team Lead's time at a salary of \$95,945, 50% of one Technical Consultant at a salary of \$79,954, 10% each for three Technical Consultants at \$79,954 each, and 15% each for three Project Manager/Project Specialists' at an average salary of \$77,250, plus 12 trips to San Diego per year calculated @ 368 reimbursable miles per trip. Salary calculations equal \$108,220 , (or $9494.5 + 39,977 + 23986.2 + 34,762.5 = 108220.2$) [$(94945*.1=9494.5) + (79954*.5=39977) + (79954*.1=7995.4*3=23986.2) + (77250*.15=11587.5*3=34762.5)$]. 17% is deducted to adjust for V&S, so 89823 is utilized for salary calculation, ($108220.2*.83=89822.77$). Mileage totals \$2,230 ($12*368=4416$ miles @.55=\$2,428.8). Allocation should total ~\$92,252 or 89823+2429. The percentage of the organizational budget is then calculated as $92252/478089=.192959888$, or 19.3%.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0307.000 - Website/ Database/ Sever Support

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 4. Asset and Data Management
 Cost Center: 2200-0307.000 - Website/ Database/ Sever Support

Forecast Summary:

Forecast Method		In 2009 \$(000) "Incurred Costs"								
		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Base YR Rec	554	554	554	0	0	0	554	554	554
Non-Labor	Base YR Rec	7	7	7	0	0	0	7	7	7
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		561	561	561	0	0	0	561	561	561
FTE	Base YR Rec	7.2	7.2	7.2	0.0	0.0	0.0	7.2	7.2	7.2

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 4. Asset and Data Management
Cost Center: 2200-0307.000 - Website/ Database/ Sever Support

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	435	395	432	352	470
Non-Labor	83	38	61	17	7
NSE	0	0	0	0	0
Total	518	433	492	369	477
FTE	6.1	5.4	5.5	4.7	6.1
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	435	395	432	352	470
Non-Labor	83	38	61	17	7
NSE	0	0	0	0	0
Total	518	433	492	369	477
FTE	6.1	5.4	5.5	4.7	6.1
Vacation & Sick (Nominal \$)					
Labor	74	71	75	68	85
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	74	71	75	68	85
FTE	1.1	1.0	1.0	0.9	1.1
Escalation to 2009\$					
Labor	63	41	28	6	0
Non-Labor	10	3	3	0	0
NSE	0	0	0	0	0
Total	74	45	32	7	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	573	507	535	426	555
Non-Labor	93	42	64	17	7
NSE	0	0	0	0	0
Total	666	549	599	443	562
FTE	7.2	6.4	6.5	5.6	7.2

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 4. Asset and Data Management
 Cost Center: 2200-0307.000 - Website/ Database/ Sever Support

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-0323.000 - Planning & Project Development

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 5. Planning & Analysis
Cost Center: 2200-0323.000 - Planning & Project Development

Activity Description:

Activities associated with the Planning and Project Development organization include detailed analysis of existing facilities, and systems; or potential additions/ acquisitions to existing systems with the ultimate goal of optimizing asset usage and prolong useful life. In addition, the RECLAIM program is managed from this cost center.

Forecast Methodology:

Labor - 5-YR Average

Both Labor and Non-labor spending is anticipated to follow the 5-year average profile. This adequately represents the underlying fluctuation in spending for this cost center that is depicted in historical data and may occur over time. Incremental to the chosen average is an added resource to manage the new environmental cap-and-trade program (AB32 GHG). 0.5FTE in 2011, full FTE for 2012.

Non-Labor - 5-YR Average

Both Labor and Non-labor spending is anticipated to follow the 5-year average profile. This adequately represents the underlying fluctuation in spending for this cost center that is depicted in historical data and may occur over time. Incremental to the chosen average is an added resource to manage the new environmental cap-and-trade program (AB32 GHG).

NSE - 5-YR Average

There are no NSE expenses for this cost center.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
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Category: A. General Engineering
Category-Sub: 5. Planning & Analysis
Cost Center: 2200-0323.000 - Planning & Project Development

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		645	587	545	560	551	577	632	687
Non-Labor		69	69	165	64	61	85	98	110
NSE		0	0	0	0	0	0	0	0
Total		714	656	710	624	612	662	730	797
FTE		6.5	5.9	5.3	5.5	5.1	5.7	6.2	6.7
		Allocations Out							
Labor		15	12	11	13	12	12	13	14
Non-Labor		0	1	3	1	1	2	2	3
NSE		0	0	0	0	0	0	0	0
Total		15	13	14	14	13	14	15	17
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		630	575	534	547	539	565	619	673
Non-Labor		69	68	162	63	60	83	96	107
NSE		0	0	0	0	0	0	0	0
Total		699	643	696	610	599	648	715	780
FTE		6.5	5.9	5.3	5.5	5.1	5.7	6.2	6.7
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		630	575	534	547	539	565	619	673
Non-Labor		69	68	162	63	60	83	96	107
NSE		0	0	0	0	0	0	0	0
Total		699	643	696	610	599	648	715	780
FTE		6.5	5.9	5.3	5.5	5.1	5.7	6.2	6.7

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 5. Planning & Analysis
 Cost Center: 2200-0323.000 - Planning & Project Development

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	1	0	0	1	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	550	61	0	611	5.10	577	85	0	662	5.70
% Allocation										
Retained	97.79%	97.78%				97.86%	97.86%			
SEU	2.21%	2.22%				2.14%	2.14%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	538	60	0	598		565	83	0	648	
SEU	12	1	0	13		12	2	0	14	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	551	61	0	612	5.10	577	85	0	662	5.70
Total Alloc. Out	12	1	0	13		12	2	0	14	
Total Retained	539	60	0	599		565	83	0	648	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	539	60	0	599		565	83	0	648	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	632	98	0	730	6.20	687	110	0	797	6.70
% Allocation										
Retained	97.86%	97.86%				97.86%	97.86%			
SEU	2.14%	2.14%				2.14%	2.14%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	619	96	0	715		673	107	0	780	
SEU	13	2	0	15		14	3	0	17	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	632	98	0	730	6.20	687	110	0	797	6.70
Total Alloc. Out	13	2	0	15		14	3	0	17	
Total Retained	619	96	0	715		673	107	0	780	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	619	96	0	715		673	107	0	780	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 5. Planning & Analysis
Cost Center: 2200-0323.000 - Planning & Project Development

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Shared services allocation covers SDG&E Engineering and RECLAIM support. Calculation is based on an estimated salary reallocation of \$10,000, or 13% of one project manager's time based on ratio of SDG&E Gas Meters to So Cal Gas Meters. Meter calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,306,098. Total Active meters at SDG&E is 840,529 (13%). Total Active meters at SoCal Gas is 5,465,569 (87%). The reallocation is based on salary less 17% for V&S. $(95790 \times .83 = 79506 \times 13\% = 10,336$ or $\sim \$10K$) In order to derive a \$10,000 reallocation total labor and nonlabor expenditures less V&S are used to calculate a percentage. $\$10,336 / \$464,890 = 2.22\%$.

Cost Center Allocation Percentage for 2010

Shared services allocation covers SDG&E Engineering and RECLAIM support. Calculation is based on an estimated salary reallocation of $\sim \$11,000$, or 13.55% of one project manager's time based on ratio of SDG&E Gas Meters to So Cal Gas Meters. Meter calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%). Total Active meters at SoCal Gas is 5,483,549 (86.45%). The reallocation is based on salary less 17% for V&S. $(98664 \times .83 = 81891 \times 13.55\% = 11,096$ or $\sim \$11K$) In order to derive a \$11,000 reallocation total labor and nonlabor expenditures less V&S are used to calculate a percentage. $\$11,096 / \$517,492 = .021442323$, 2.14%.

Cost Center Allocation Percentage for 2011

Shared services allocation covers SDG&E Engineering and RECLAIM support. Calculation is based on an estimated salary reallocation of $\sim \$11,000$, or 13.55% of one project manager's time based on ratio of SDG&E Gas Meters to So Cal Gas Meters. Meter calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%). Total Active meters at SoCal Gas is 5,483,549 (86.45%). The reallocation is based on salary less 17% for V&S. $(98664 \times .83 = 81891 \times 13.55\% = 11,096$ or $\sim \$11K$) In order to derive a \$11,000 reallocation total labor and nonlabor expenditures less V&S are used to calculate a percentage. $\$11,096 / \$517,492 = .021442323$, 2.14%.

Cost Center Allocation Percentage for 2012

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 5. Planning & Analysis
Cost Center: 2200-0323.000 - Planning & Project Development

Shared services allocation covers SDG&E Engineering and RECLAIM support. Calculation is based on an estimated salary reallocation of ~\$11,000, or 13.55% of one project manager's time based on ratio of SDG&E Gas Meters to So Cal Gas Meters. Meter calculations are based on the ratio of SDG&E Gas Meters to SoCal Gas Meters. The ratio is 13% SDG&E and 87% SoCal Gas based on data from Osvaldo Esparza (Engineering Analyst in SDG&E Region Engineering) and the CIS Monthly Report E08P25-1 prepared by Clara Chu (Forecasting Advisor in SoCal Gas-Gas Forecasting). Total Active meters for both utilities is 6,342,813. Total Active meters at SDG&E is 859,264 (13.55%). Total Active meters at SoCal Gas is 5,483,549 (86.45%). The reallocation is based on salary less 17% for V&S. $(98664 * .83 = 81891 * 13.55\% = 11,096$ or ~ \$11K) In order to derive a \$11,000 reallocation total labor and nonlabor expenditures less V&S are used to calculate a percentage. $\$11,0966 / \$517492 = .021442323$, 2.14%.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 5. Planning & Analysis
 Cost Center: 2200-0323.000 - Planning & Project Development

Forecast Summary:

Forecast Method		In 2009 \$(000) "Incurred Costs"								
		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		2010	2011	2012	2010	2011	2012	2010	2011	2012
Labor	5-YR Average	577	577	577	0	55	110	577	632	687
Non-Labor	5-YR Average	85	85	85	0	13	25	85	98	110
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		662	662	662	0	68	135	662	730	797
FTE	5-YR Average	5.7	5.7	5.7	0.0	0.5	1.0	5.7	6.2	6.7

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	

2011 0 0 0 0 0.5 1-Sided Adj

Additional management personnel required to manage cap-and-trade program for both utilities gas systems. Plan to hire mid year therefore only half of FTE stated. 0.5 FTE

2011 55 0 0 55 0.0 1-Sided Adj

Additional management personnel required to manage cap-and-trade program for both utilities gas systems. Plan to hire mid year therefore only half of salary stated. \$110k/2=\$55k

2011 0 13 0 13 0.0 1-Sided Adj

Non-labor expenses associated with additional management personnel required to manage cap-and-trade program for both utilities gas systems. Plan to hire mid year. \$25k/2=\$12.5k

2011 Total	55	13	0	68	0.5	
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2012 0 0 0 0 1.0 1-Sided Adj

Additional management personnel required to manage cap-and-trade program for both utilities gas systems.

2012 0 25 0 25 0.0 1-Sided Adj

Non-labor expenses associated with additional management personnel required to manage cap-and-trade program for both utilities gas systems. \$25k

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 5. Planning & Analysis
 Cost Center: 2200-0323.000 - Planning & Project Development

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2012	110	0	0	110	0.0	1-Sided Adj
Additional management personnel required to manage cap-and-trade program for both utilities gas systems. Plan to hire mid year therefore only half of salary stated. \$ 110k						
2012 Total	110	25	0	135	1.0	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: A. General Engineering
Category-Sub: 5. Planning & Analysis
Cost Center: 2200-0323.000 - Planning & Project Development

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	490	457	372	396	467
Non-Labor	62	64	156	64	61
NSE	0	0	0	0	0
Total	552	521	528	460	528
FTE	5.5	5.0	3.6	3.8	4.3
Adjustments (Nominal \$) **					
Labor	0	0	68	67	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	68	67	0
FTE	0.0	0.0	0.9	0.8	0.0
Recorded-Adjusted (Nominal \$)					
Labor	490	457	440	463	467
Non-Labor	62	64	156	64	61
NSE	0	0	0	0	0
Total	552	521	596	527	528
FTE	5.5	5.0	4.5	4.6	4.3
Vacation & Sick (Nominal \$)					
Labor	84	82	77	89	84
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	84	82	77	89	84
FTE	1.0	0.9	0.8	0.9	0.8
Escalation to 2009\$					
Labor	71	48	29	8	0
Non-Labor	8	6	9	1	0
NSE	0	0	0	0	0
Total	79	54	38	9	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	645	587	545	560	552
Non-Labor	70	69	165	65	61
NSE	0	0	0	0	0
Total	715	656	710	625	612
FTE	6.5	5.9	5.3	5.5	5.1

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: A. General Engineering
 Category-Sub: 5. Planning & Analysis
 Cost Center: 2200-0323.000 - Planning & Project Development

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
Labor	0	0	68	67	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	68	67	0
FTE	0.0	0.0	0.9	0.8	0.0

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007	68	0	0	0.0	1-Sided Adj	N/A	TP1RMC2009102 6114701490
adjustment to account for unfilled vacancy (\$80K/1.1745 V&S)							
2007	0	0	0	0.9	1-Sided Adj	N/A	TP1RMC2009102 6114751807
Adjustment to account for unfilled vacancy (1FTE/1.1745 V&S)							
2007 Total	68	0	0	0.9			
2008	67	0	0	0.0	1-Sided Adj	N/A	TP1RMC2009102 6114957230
Adjustment to account for unfilled vacancy (\$80k/1.1927 V&S)							
2008	0	0	0	0.8	1-Sided Adj	N/A	TP1RMC2009102 6115037107
Adjustment to account for unfilled vacancy (1FTE/1.1927 V&S)							
2008 Total	67	0	0	0.8			
2009 Total	0	0	0	0.0			

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Cost Center: VARIOUS

Summary for Category: B. Pipeline Integrity

	In 2009\$ (000) "Book Expense"			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
Labor	2,639	3,811	3,785	3,785
Non-Labor	577	1,897	1,906	1,915
NSE	0	0	0	0
Total	3,216	5,708	5,691	5,700
FTE	34.7	55.4	54.9	54.9

Cost Centers belonging to this Category:

2200-0319.000 Corrosion & Direct Assessment

Labor	450	578	552	552
Non-Labor	31	142	151	160
NSE	0	0	0	0
Total	481	720	703	712
FTE	5.6	7.5	7.0	7.0

2200-0320.000 Material and Quality - Shared

Labor	271	271	271	271
Non-Labor	30	30	30	30
NSE	0	0	0	0
Total	301	301	301	301
FTE	3.3	3.3	3.3	3.3

2200-2108.000 Pipeline Integrity Manager

Labor	141	160	160	160
Non-Labor	264	851	851	851
NSE	0	0	0	0
Total	405	1,011	1,011	1,011
FTE	1.8	1.8	1.8	1.8

2200-2109.000 Pipeline Integrity Technical Support - Shared

Labor	526	556	556	556
Non-Labor	124	136	136	136
NSE	0	0	0	0
Total	650	692	692	692
FTE	6.7	6.7	6.7	6.7

2200-2291.000 Assessment Planning - Shared

Labor	293	293	293	293
Non-Labor	1	1	1	1
NSE	0	0	0	0
Total	294	294	294	294
FTE	4.0	4.0	4.0	4.0

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Cost Center: VARIOUS

In 2009\$ (000) "Book Expense"			
Adjusted-Recorded	Adjusted-Forecast		
2009	2010	2011	2012

2200-2293.000 Preventative and Mitigation - Shared

Labor	457	478	478	478
Non-Labor	92	86	86	86
NSE	0	0	0	0
Total	549	564	564	564
FTE	6.3	7.1	7.1	7.1

2200-2297.000 Data Management and GPS Support - Shared

Labor	501	527	527	527
Non-Labor	35	42	42	42
NSE	0	0	0	0
Total	536	569	569	569
FTE	7.0	8.0	8.0	8.0

2200-2325.000 Pipeline Integrity/ Ops Tech Support - Shared

Labor	0	948	948	948
Non-Labor	0	609	609	609
NSE	0	0	0	0
Total	0	1,557	1,557	1,557
FTE	0.0	17.0	17.0	17.0

Beginning of Workpaper
2200-0319.000 - Corrosion & Direct Assessment

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-0319.000 - Corrosion & Direct Assessment

Activity Description:

The Corrosion and Direct Assessment team provides engineering and technical expertise associated with Cathodic protection including system design, audits and troubleshooting; Metallurgical support, including welding procedures, failure analysis, pipe and welding consideration; Internal and external corrosion support including corrosion mitigation and monitoring, chemical treatment, and microbiological influences. Costs incurred include labor and non-labor expenses associated these activities by Project Managers, engineers, technical personnel, and administrative support.

Forecast Methodology:

Labor - Zero-Based

A zero-based forecast was employed to describe the future activities of this cost center/workgroup. This forecasting methodology best describes this workgroup because the changes that have impacted the workgroup. The nature of work has changed driven by the regulatory needs that have to be addressed. The nature of pipeline integrity is that as new threats are identified, SoCalGas have responded at times by changing the way it does work.

Non-Labor - Zero-Based

A zero-based forecast was employed to describe the future activities of this cost center/workgroup. This forecasting methodology best describes this workgroup because the changes that have impacted the workgroup. The nature of work has changed driven by the regulatory needs that have to be addressed. The nature of pipeline integrity is that as new threats are identified, SoCalGas have responded at times by changing the way it does work.

NSE - Zero-Based

There are no non-standard escalation expenses for this account.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-0319.000 - Corrosion & Direct Assessment

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		879	683	688	847	524	674	644	644
Non-Labor		430	354	199	87	36	166	176	186
NSE		0	0	0	0	0	0	0	0
Total		1,309	1,037	887	934	560	840	820	830
FTE		10.1	8.5	8.1	9.6	5.6	7.5	7.0	7.0
		Allocations Out							
Labor		48	111	127	122	74	96	92	92
Non-Labor		0	48	29	12	5	24	25	26
NSE		0	0	0	0	0	0	0	0
Total		48	159	156	134	79	120	117	118
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		831	572	561	725	450	578	552	552
Non-Labor		430	306	170	75	31	142	151	160
NSE		0	0	0	0	0	0	0	0
Total		1,261	878	731	800	481	720	703	712
FTE		9.9	8.1	7.6	9.6	5.6	7.5	7.0	7.0
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		831	572	561	725	450	578	552	552
Non-Labor		430	306	170	75	31	142	151	160
NSE		0	0	0	0	0	0	0	0
Total		1,261	878	731	800	481	720	703	712
FTE		9.9	8.1	7.6	9.6	5.6	7.5	7.0	7.0

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-0319.000 - Corrosion & Direct Assessment

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	6	0	0	6	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	518	36	0	554	5.60	674	166	0	840	7.50
% Allocation										
Retained	85.73%	85.73%				85.76%	85.76%			
SEU	14.27%	14.27%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	444	31	0	475		578	142	0	720	
SEU	74	5	0	79		96	24	0	120	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	524	36	0	560	5.60	674	166	0	840	7.50
Total Alloc. Out	74	5	0	79		96	24	0	120	
Total Retained	450	31	0	481		578	142	0	720	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	450	31	0	481		578	142	0	720	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	644	176	0	820	7.00	644	186	0	830	7.00
% Allocation										
Retained	85.76%	85.76%				85.76%	85.76%			
SEU	14.24%	14.24%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	552	151	0	703		552	160	0	712	
SEU	92	25	0	117		92	26	0	118	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	644	176	0	820	7.00	644	186	0	830	7.00
Total Alloc. Out	92	25	0	117		92	26	0	118	
Total Retained	552	151	0	703		552	160	0	712	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	552	151	0	703		552	160	0	712	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-0319.000 - Corrosion & Direct Assessment

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 243 miles. SDG&E Distribution main is 8338, totaling 8581 miles. SoCal Gas has 3961 miles of Transmission pipe and 47566 miles of distribution main for a total of 51527 miles. $(8581+51527=60,108 \text{ miles. } 8581/60108=.1427597.$
 $51527/60108=.857240, \text{ or } 14.28\% \text{ and } 85.72\%.)$

Cost Center Allocation Percentage for 2010

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2011

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2012

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-0319.000 - Corrosion & Direct Assessment

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Zero-Based	0	0	0	674	644	644	674	644	644
Non-Labor	Zero-Based	0	0	0	166	176	186	166	176	186
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	840	820	830	840	820	830
FTE	Zero-Based	0.0	0.0	0.0	7.5	7.0	7.0	7.5	7.0	7.0

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	674	0	0	674	0.0	1-Sided Adj

Labor requirements for scheduled ECDA Pipeline Integrity projects. Includes Team Lead, three Project Managers, two Technical Advisors, Engineer II, and Associate Engineer

2010	0	0	0	0	7.5	1-Sided Adj
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Labor requirements for scheduled ECDA Pipeline Integrity projects. Includes Team Lead, three Project Managers, two Technical Advisors, Engineer II, and Associate Engineer

2010	0	166	0	166	0.0	1-Sided Adj
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Non labor expenses to cover training and certification(NACE) activities; conference and seminar attendance; participation on Industry committee meetings; expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business; Small tool and equipment purchases.

2010 Total	674	166	0	840	7.5	
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2011	644	0	0	644	0.0	1-Sided Adj
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Labor requirements for scheduled ECDA Pipeline Integrity projects. Includes Team Lead, three Project Managers, two Technical Advisors, Engineer II.

2011	0	0	0	0	7.0	1-Sided Adj
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Labor requirements for scheduled ECDA Pipeline Integrity projects. Includes Team Lead, three Project Managers, two Technical Advisors, Engineer II.

2011	0	176	0	176	0.0	1-Sided Adj
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Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-0319.000 - Corrosion & Direct Assessment

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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Non labor expenses to cover training and certification(NACE) activities; conference and seminar attendance; participation on Industry committee meetings; expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business; Small tool and equipment purchases.

2011 Total	644	176	0	820	7.0	
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2012	644	0	0	644	0.0	1-Sided Adj
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Labor requirements for scheduled ECDA Pipeline Integrity projects. Includes Team Lead, three Project Managers, two Technical Advisors, Engineer II.

2012	0	0	0	0	7.0	1-Sided Adj
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Labor requirements for scheduled ECDA Pipeline Integrity projects. Includes Team Lead, three Project Managers, two Technical Advisors, Engineer II.

2012	0	186	0	186	0.0	1-Sided Adj
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Non labor expenses to cover training and certification(NACE) activities; conference and seminar attendance; participation on Industry committee meetings; expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business; Small tool and equipment purchases.

2012 Total	644	186	0	830	7.0	
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Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-0319.000 - Corrosion & Direct Assessment

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	667	532	555	700	444
Non-Labor	383	325	189	86	36
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	1,050	857	743	785	480
FTE	8.6	7.1	6.9	8.1	4.7
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	667	532	555	700	444
Non-Labor	383	325	189	86	36
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	1,050	857	743	785	480
FTE	8.6	7.1	6.8	8.0	4.7
Vacation & Sick (Nominal \$)					
Labor	114	95	97	135	80
Non-Labor	0	0	0	0	0
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	114	95	97	135	80
FTE	1.5	1.4	1.3	1.6	0.9
Escalation to 2009\$					
Labor	97	56	37	12	0
Non-Labor	48	29	11	1	0
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	145	85	47	14	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	878	683	688	847	524
Non-Labor	431	354	199	87	36
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	1,309	1,036	887	934	560
FTE	10.1	8.5	8.1	9.6	5.6

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-0319.000 - Corrosion & Direct Assessment

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-0320.000 - Material and Quality - Shared

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-0320.000 - Material and Quality - Shared

Activity Description:

This team manages the business processes for approval and documentation of Gas Pipeline Materials. Pipeline Integrity regulatory requirements mandate minimum levels of materials-related information that are to be maintained to facilitate effective pipeline integrity and O&M decisions in the future. This team is also the process owner for Gas Engineering Quality processes, including the quality control plan for integrity management, and gas materials. The process for approving manufacturers that supply specified materials is also integrated into the material approval process. This team coordinates assessments of potential and approved suppliers of pipeline materials and products, and tracks supplier quality performance.

Forecast Methodology:

Labor - Base YR Rec

Due to changes in personnel and activity the 2009 base year forecast is the most accurate representation of services and funding required.

Non-Labor - Base YR Rec

Due to changes in personnel and activity the 2009 base year forecast is the most accurate representation of services and funding required.

NSE - Base YR Rec

There are no non-standard escalation expenses associated with this cost center.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-0320.000 - Material and Quality - Shared

Summary of Results:

Years	In 2009\$ (000)							
	Adjusted-Recorded					Adjusted-Forecast		
	2005	2006	2007	2008	2009	2010	2011	2012
	Total Incurred (100% Level)							
Labor	339	465	480	409	310	310	310	310
Non-Labor	43	63	47	65	34	34	34	34
NSE	0	0	0	0	0	0	0	0
Total	382	528	527	474	344	344	344	344
FTE	4.0	5.6	5.6	4.7	3.3	3.3	3.3	3.3
	Allocations Out							
Labor	44	69	71	61	39	39	39	39
Non-Labor	6	9	7	9	4	4	4	4
NSE	0	0	0	0	0	0	0	0
Total	50	78	78	70	43	43	43	43
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Retained							
Labor	295	396	409	348	271	271	271	271
Non-Labor	37	54	40	56	30	30	30	30
NSE	0	0	0	0	0	0	0	0
Total	332	450	449	404	301	301	301	301
FTE	4.0	5.6	5.6	4.7	3.3	3.3	3.3	3.3
	Allocations In							
Labor	0	0	0	0	0	0	0	0
Non-Labor	0	0	0	0	0	0	0	0
NSE	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Book Expense							
Labor	295	396	409	348	271	271	271	271
Non-Labor	37	54	40	56	30	30	30	30
NSE	0	0	0	0	0	0	0	0
Total	332	450	449	404	301	301	301	301
FTE	4.0	5.6	5.6	4.7	3.3	3.3	3.3	3.3

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-0320.000 - Material and Quality - Shared

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	1	4	0	5	0.00	1	4	0	5	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	309	30	0	339	3.30	309	30	0	339	3.30
% Allocation										
Retained	87.37%	87.37%				87.40%	87.40%			
SEU	12.63%	12.63%				12.60%	12.60%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	270	26	0	296		270	26	0	296	
SEU	39	4	0	43		39	4	0	43	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	310	34	0	344	3.30	310	34	0	344	3.30
Total Alloc. Out	39	4	0	43		39	4	0	43	
Total Retained	271	30	0	301		271	30	0	301	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	271	30	0	301		271	30	0	301	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	1	4	0	5	0.00	1	4	0	5	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	309	30	0	339	3.30	309	30	0	339	3.30
% Allocation										
Retained	87.40%	87.40%				87.40%	87.40%			
SEU	12.60%	12.60%				12.60%	12.60%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	270	26	0	296		270	26	0	296	
SEU	39	4	0	43		39	4	0	43	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	310	34	0	344	3.30	310	34	0	344	3.30
Total Alloc. Out	39	4	0	43		39	4	0	43	
Total Retained	271	30	0	301		271	30	0	301	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	271	30	0	301		271	30	0	301	

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-0320.000 - Material and Quality - Shared

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

This Cost Center provides 75% of its services to Distribution and 25% to Transmission. Calculations for 75% of department are based on the ratio of SDG&E Distribution main to SoCal Gas Distribution main based on the Annual Report filed with the Department of Transportation in February 2008. SDG&E Distribution main is 8,338 miles. SoCal Gas has 47,566 miles of distribution main for a total of 55,904 miles for both utilities. $(8338+47566=55,904 \text{ miles. } 8338/55904=.14914854. 47566/55904=.850851, \text{ or } 14.91\% \text{ and } 85.09\%.)$ Calculations for the remaining 25% are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2007 filing submitted in February of 2008. SDG&E Transmission pipe totaled 243 miles. SoCal Gas had 3961 miles of Transmission pipe for a total of 4204 miles for both utilities. $(243+3961=4204 \text{ miles. } 243/4204=.057802. 3961/4204=.942197, \text{ or } 5.78\% \text{ for SDG\&E and } 94.22\% \text{ for SoCal Gas. } 75\% \text{ of the } 242,200 \text{ estimate is subject to allocation to SDG\&E at } 14.91\% \text{ and } 25\% \text{ of the } 242,000 \text{ estimate is subject to allocation at } 5.78\%. \text{ The Distribution support is } 242200*.75=181650*.1491=27084. \text{ Transmission support is } 242200*.25=x*.0578=3500. 27084+3500=30584. \text{ Percentage is } .75*.1491=.111825 + .25*.0578=.01445. 11.1825\%+1.445\%=12.6275\%. 242200*12.6275\%=330584.$

Cost Center Allocation Percentage for 2010

This Cost Center provides 75% of its services to Distribution and 25% to Transmission. Calculations for 75% of department are based on the ratio of SDG&E Distribution main to SoCal Gas Distribution main based on the Annual Report filed with the Department of Transportation in February 2009. SDG&E Distribution main is 8,317 miles. SoCal Gas has 47,540 miles of distribution main for a total of 55,857 miles for both utilities. $(8317+47540=55,857 \text{ miles. } 8317/55857=.1489. 47540/55857=.8511, \text{ or } 14.89\% \text{ and } 85.11\%.)$ Calculations for the remaining 25% are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2008 filing submitted in February of 2009. SDG&E Transmission pipe totaled 242 miles. SoCal Gas had 3999 miles of Transmission pipe for a total of 4241 miles for both utilities. $(242+3999=4241 \text{ miles. } 242/4241=.0571. 3999/4241=.9429, \text{ or } 5.71\% \text{ for SDG\&E and } 94.29\% \text{ for SoCal Gas. } 75\% \text{ of the } 302,302 \text{ estimate is subject to allocation to SDG\&E at } 14.89\% \text{ and } 25\% \text{ of the } 302,302 \text{ estimate is subject to allocation at } 5.71\%. \text{ The Distribution support is } 302302*.75=226726.5*.1489=33760. \text{ Transmission support is } 302302*.25=75575.5*.0571=4315. 33760+4315=38075. \text{ Percentage is } .75*.1489=.111675 + .25*.0571=.014275. 11.1675\%+1.4275\%=12.595\%. 302302*12.595\%=38075.$

Cost Center Allocation Percentage for 2011

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Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-0320.000 - Material and Quality - Shared

This Cost Center provides 75% of its services to Distribution and 25% to Transmission. Calculations for 75% of department are based on the ratio of SDG&E Distribution main to SoCal Gas Distribution main based on the Annual Report filed with the Department of Transportation in February 2009. SDG&E Distribution main is 8,317 miles. SoCal Gas has 47,540 miles of distribution main for a total of 55,857 miles for both utilities. $(8317+47540=55,857 \text{ miles. } 8317/55857=.1489. 47540/55857=.8511, \text{ or } 14.89\% \text{ and } 85.11\%.)$ Calculations for the remaining 25% are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2008 filing submitted in February of 2009. SDG&E Transmission pipe totaled 242 miles. SoCal Gas had 3999 miles of Transmission pipe for a total of 4241 miles for both utilities. $(242+3999=4241 \text{ miles. } 242/4241=.0571. 3999/4241=.9429, \text{ or } 5.71\% \text{ for SDG\&E and } 94.29\% \text{ for SoCal Gas. } 75\% \text{ of the } 302,302 \text{ estimate is subject to allocation to SDG\&E at } 14.89\% \text{ and } 25\% \text{ of the } 302,302 \text{ estimate is subject to allocation at } 5.71\%.$ The Distribution support is $302302*.75=226726.5*.1489=33760.$ Transmission support is $302302*.25=75575.5*.0571=4315. 33760+4315=38075.$ Percentage is $.75*.1489=.111675 + .25*.0571=.014275. 11.1675\%+1.4275\%=12.595\%. 302302*12.595\%=38075.$

Cost Center Allocation Percentage for 2012

This Cost Center provides 75% of its services to Distribution and 25% to Transmission. Calculations for 75% of department are based on the ratio of SDG&E Distribution main to SoCal Gas Distribution main based on the Annual Report filed with the Department of Transportation in February 2009. SDG&E Distribution main is 8,317 miles. SoCal Gas has 47,540 miles of distribution main for a total of 55,857 miles for both utilities. $(8317+47540=55,857 \text{ miles. } 8317/55857=.1489. 47540/55857=.8511, \text{ or } 14.89\% \text{ and } 85.11\%.)$ Calculations for the remaining 25% are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2008 filing submitted in February of 2009. SDG&E Transmission pipe totaled 242 miles. SoCal Gas had 3999 miles of Transmission pipe for a total of 4241 miles for both utilities. $(242+3999=4241 \text{ miles. } 242/4241=.0571. 3999/4241=.9429, \text{ or } 5.71\% \text{ for SDG\&E and } 94.29\% \text{ for SoCal Gas. } 75\% \text{ of the } 302,302 \text{ estimate is subject to allocation to SDG\&E at } 14.89\% \text{ and } 25\% \text{ of the } 302,302 \text{ estimate is subject to allocation at } 5.71\%.$ The Distribution support is $302302*.75=226726.5*.1489=33760.$ Transmission support is $302302*.25=75575.5*.0571=4315. 33760+4315=38075.$ Percentage is $.75*.1489=.111675 + .25*.0571=.014275. 11.1675\%+1.4275\%=12.595\%. 302302*12.595\%=38075.$

Southern California Gas Company
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 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-0320.000 - Material and Quality - Shared

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Base YR Rec	310	310	310	0	0	0	310	310	310
Non-Labor	Base YR Rec	34	34	34	0	0	0	34	34	34
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		344	344	344	0	0	0	344	344	344
FTE	Base YR Rec	3.3	3.3	3.3	0.0	0.0	0.0	3.3	3.3	3.3

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	

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Area: ENGINEERING
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Cost Center: 2200-0320.000 - Material and Quality - Shared

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	258	363	387	178	249
Non-Labor	38	58	45	64	34
NSE	0	0	0	0	0
Total	296	420	431	243	283
FTE	3.4	4.6	4.7	2.0	2.6
Adjustments (Nominal \$) **					
Labor	0	0	0	159	14
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	159	14
FTE	0.0	0.0	0.0	1.9	0.2
Recorded-Adjusted (Nominal \$)					
Labor	258	363	387	338	263
Non-Labor	38	58	45	64	34
NSE	0	0	0	0	0
Total	296	420	431	402	296
FTE	3.4	4.7	4.7	3.9	2.8
Vacation & Sick (Nominal \$)					
Labor	44	65	67	65	47
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	44	65	67	65	47
FTE	0.6	0.9	0.9	0.8	0.5
Escalation to 2009\$					
Labor	37	38	25	6	0
Non-Labor	5	5	3	1	0
NSE	0	0	0	0	0
Total	42	43	28	7	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	339	465	479	409	310
Non-Labor	43	63	47	65	34
NSE	0	0	0	0	0
Total	382	528	527	474	344
FTE	4.0	5.6	5.6	4.7	3.3

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
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 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-0320.000 - Material and Quality - Shared

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
Labor	0	0	0	159	14
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	159	14
FTE	0.0	0.0	0.0	1.9	0.2

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008	159	0	0	0.0	CCTR Transf	From 2200-2300.000	TP1RMC2009102 8160330190
Adjustment to correct error in timekeeping posting between cost center owners newly created NSS (2200-2300) and historical USS (2200-0320) cost centers.							
2008	0	0	0	1.9	CCTR Transf	From 2200-2300.000	TP1RMC2009102 8160445753
Adjustment to correct error in timekeeping posting between cost center owners newly created NSS (2200-2300) and historical USS (2200-0320) cost centers.							
2008 Total	159	0	0	1.9			
2009	14	0	0	0.0	CCTR Transf	From 2200-2300.000	TP1RMC2010042 7073659730
Adjustment to correct timekeeping posting between cost center owners newly created NSS (2200-2300) and historical USS (2200-0320) cost centers.							

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 Cost Center: 2200-0320.000 - Material and Quality - Shared

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	0	0	0	0.2	CCTR Transf	From 2200-2300.000	TP1RMC2010043 0082322173

Adjustment to correct timekeeping posting between cost centers. Activities are Shared Service in nature and therefore transferred from NSS (2200-2300), to USS (2200-0320) cost centers.

2009 Total	14	0	0	0.2			
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Beginning of Workpaper
2200-2108.000 - Pipeline Integrity Manager

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2108.000 - Pipeline Integrity Manager

Activity Description:

This account includes labor and expenses associated with the Pipeline Integrity Manager and administrative support functions, both company and contract. Activities managed include all aspects of the federal rules associated with both Transmission and Distribution aspects of the Pipeline Integrity Management Program, under the congressional mandates of the PIPE's act of 2006. Managed activities include the written programs of both TIMP and DIMP; threat identification, risk evaluation, assessment and repair, data collection, analysis, prevention and mitigative action plans, budgetary development and oversight, reviews and audit of activities, summary reporting to internal and external entities, and continual program improvement.

Forecast Methodology:

Labor - Zero-Based

A zero-based forecast was employed to describe the future activities of this cost center/workgroup. This forecasting methodology best describes this workgroup because the changes that have impacted the workgroup. The nature of work has changed driven by the regulatory needs that have to be addressed. The nature of pipeline integrity is that as new threats are identified, SoCalGas have responded at times by changing the way it does work.

Non-Labor - Zero-Based

A zero-based forecast was employed to describe the future activities of this cost center/workgroup. This forecasting methodology best describes this workgroup because the changes that have impacted the workgroup. The nature of work has changed driven by the regulatory needs that have to be addressed. The nature of pipeline integrity is that as new threats are identified, SoCalGas have responded at times by changing the way it does work.

NSE - Zero-Based

There are no Non Standard Escalation expenses in this cost center.

Southern California Gas Company
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Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2108.000 - Pipeline Integrity Manager

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		400	1,150	1,289	924	165	187	187	187
Non-Labor		415	581	504	137	308	992	992	992
NSE		0	0	0	0	0	0	0	0
Total		815	1,731	1,793	1,061	473	1,179	1,179	1,179
FTE		4.5	13.8	14.9	10.8	1.8	1.8	1.8	1.8
		Allocations Out							
Labor		31	149	160	133	24	27	27	27
Non-Labor		32	55	50	19	44	141	141	141
NSE		0	0	0	0	0	0	0	0
Total		63	204	210	152	68	168	168	168
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		369	1,001	1,129	791	141	160	160	160
Non-Labor		383	526	454	118	264	851	851	851
NSE		0	0	0	0	0	0	0	0
Total		752	1,527	1,583	909	405	1,011	1,011	1,011
FTE		4.5	13.8	14.9	10.8	1.8	1.8	1.8	1.8
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		369	1,001	1,129	791	141	160	160	160
Non-Labor		383	526	454	118	264	851	851	851
NSE		0	0	0	0	0	0	0	0
Total		752	1,527	1,583	909	405	1,011	1,011	1,011
FTE		4.5	13.8	14.9	10.8	1.8	1.8	1.8	1.8

Southern California Gas Company
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Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2108.000 - Pipeline Integrity Manager

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	165	307	0	472	1.80	187	992	0	1,179	1.80
% Allocation										
Retained	85.72%	85.73%				85.76%	85.76%			
SEU	14.28%	14.27%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	141	263	0	404		160	851	0	1,011	
SEU	24	44	0	68		27	141	0	168	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	165	308	0	473	1.80	187	992	0	1,179	1.80
Total Alloc. Out	24	44	0	68		27	141	0	168	
Total Retained	141	264	0	405		160	851	0	1,011	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	141	264	0	405		160	851	0	1,011	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	187	992	0	1,179	1.80	187	992	0	1,179	1.80
% Allocation										
Retained	85.76%	85.76%				85.76%	85.76%			
SEU	14.24%	14.24%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	160	851	0	1,011		160	851	0	1,011	
SEU	27	141	0	168		27	141	0	168	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	187	992	0	1,179	1.80	187	992	0	1,179	1.80
Total Alloc. Out	27	141	0	168		27	141	0	168	
Total Retained	160	851	0	1,011		160	851	0	1,011	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	160	851	0	1,011		160	851	0	1,011	

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Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2108.000 - Pipeline Integrity Manager

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 243 miles. SDG&E Distribution main is 8338, totaling 8581 miles. SoCal Gas has 3961 miles of Transmission pipe and 47566 miles of distribution main for a total of 51527 miles. $(8581+51527=60,108 \text{ miles. } 8581/60108=.1427597.$
 $51527/60108=.857240, \text{ or } 14.28\% \text{ and } 85.72\%.)$

Cost Center Allocation Percentage for 2010

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2011

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2012

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2108.000 - Pipeline Integrity Manager

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Zero-Based	0	0	0	187	187	187	187	187	187
Non-Labor	Zero-Based	0	0	0	992	992	992	992	992	992
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	1,179	1,179	1,179	1,179	1,179	1,179
FTE	Zero-Based	0.0	0.0	0.0	1.8	1.8	1.8	1.8	1.8	1.8

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	187	0	0	187	0.0	1-Sided Adj

Labor requirements for managing the Pipeline Integrity program. Pipeline Integrity Manager, Administrative Assistants.

2010	0	992	0	992	0.0	1-Sided Adj
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Non labor expenses include the costs of license and maintenance fees for software applications utilized by the Pipeline Integrity groups: ICAM- Transmission, ICAM-Distribution, Geofields high pressure pipeline database. Included are fees covering consultant work (time, travel, and lodging) associated with the ongoing enhancements of the Integrity Management Programs for both transmission and Distribution rules. Small tools and equipment purchases in support of integrity related field data collection activities. Also applies to training and certification(NACE) activities; conference and seminar attendance; participation on Industry committee meetings (OSRAC, AGA); expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business

2010	0	0	0	0	1.8	1-Sided Adj
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Labor requirements for managing the Pipeline Integrity program. Pipeline Integrity Manager, Administrative Assistants.

2010 Total	187	992	0	1,179	1.8	
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2011	187	0	0	187	0.0	1-Sided Adj
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Labor requirements for managing the Pipeline Integrity program. Pipeline Integrity Manager, Administrative Assistants.

Southern California Gas Company
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 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2108.000 - Pipeline Integrity Manager

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	0	992	0	992	0.0	1-Sided Adj

Non labor expenses include the costs of license and maintenance fees for software applications utilized by the Pipeline Integrity groups: ICAM-Transmission, ICAM-Distribution, Geofields high pressure pipeline database. Included are fees covering consultant work (time, travel, and lodging) associated with the ongoing enhancements of the Integrity Management Programs for both transmission and Distribution rules. Small tools and equipment purchases in support of integrity related field data collection activities. Also applies to training and certification(NACE) activities; conference and seminar attendance; participation on Industry committee meetings (OSRAC, AGA); expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business

2011	0	0	0	0	1.8	1-Sided Adj
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Labor requirements for managing the Pipeline Integrity program. Pipeline Integrity Manager, Administrative Assistants.

2011 Total	187	992	0	1,179	1.8	
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2012	187	0	0	187	0.0	1-Sided Adj
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Labor requirements for managing the Pipeline Integrity program. Pipeline Integrity Manager, Administrative Assistants.

2012	0	992	0	992	0.0	1-Sided Adj
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Non labor expenses include the costs of license and maintenance fees for software applications utilized by the Pipeline Integrity groups: ICAM-Transmission, ICAM-Distribution, Geofields high pressure pipeline database. Included are fees covering consultant work (time, travel, and lodging) associated with the ongoing enhancements of the Integrity Management Programs for both transmission and Distribution rules. Small tools and equipment purchases in support of integrity related field data collection activities. Also applies to training and certification(NACE) activities; conference and seminar attendance; participation on Industry committee meetings (OSRAC, AGA); expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business

2012	0	0	0	0	1.8	1-Sided Adj
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Labor requirements for managing the Pipeline Integrity program. Pipeline Integrity Manager, Administrative Assistants.

2012 Total	187	992	0	1,179	1.8	
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Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2108.000 - Pipeline Integrity Manager

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	304	896	1,039	763	140
Non-Labor	369	534	478	135	307
NSE	0	0	0	0	0
Total	673	1,430	1,517	898	447
FTE	3.8	11.6	12.6	9.0	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	304	896	1,039	763	140
Non-Labor	369	534	478	135	307
NSE	0	0	0	0	0
Total	673	1,430	1,517	898	447
FTE	3.8	11.7	12.6	9.0	1.5
Vacation & Sick (Nominal \$)					
Labor	52	160	181	147	25
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	52	160	181	147	25
FTE	0.7	2.1	2.3	1.8	0.3
Escalation to 2009\$					
Labor	44	94	68	14	0
Non-Labor	46	48	27	2	0
NSE	0	0	0	0	0
Total	90	142	95	16	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	400	1,150	1,289	924	165
Non-Labor	414	582	505	137	307
NSE	0	0	0	0	0
Total	815	1,732	1,794	1,061	472
FTE	4.5	13.8	14.9	10.8	1.8

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2108.000 - Pipeline Integrity Manager

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-2109.000 - Pipeline Integrity Technical Support - Shared

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2109.000 - Pipeline Integrity Technical Support - Shared

Activity Description:

The activities conducted by the Pipeline Integrity Technical Support team include project management and engineering analysis associated with integrity assessments of covered pipeline segments in HCA's. These activities include pre-assessment, indirect inspection, direct examination, and post assessment. Pre-assessment includes exhaustive records review and data collection and to identify the historic condition of the pipe. Indirect Inspection includes the various inspection methodologies applicable to a specific pipe segment. These methods include In-Line inspection (ILI or pigging), Direct Assessment (ECDA, ICDA, etc), and Pressure testing (Hydro). Direct Examination involves the complete exposure of pipe segments to visually and physically inspect the pipe body. Post Assessment includes the evaluation of all data and knowledge collected during the previous 3 phases to conduct remaining life assessment, calculate re-assessment interval, determine assessment effectiveness, and project reporting.

Forecast Methodology:

Labor - Zero-Based

A zero-based forecast was employed to describe the activities of this workgroup. This forecasting methodology best describes this workgroup based on the level of work and the increase in analytical activities.

Non-Labor - Zero-Based

A zero-based forecast was employed to describe the activities of this workgroup. This forecasting methodology best describes this workgroup based on the level of work and the increase in analytical activities.

NSE - Zero-Based

There are no Non Standard Escalation expenses in this cost center.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2109.000 - Pipeline Integrity Technical Support - Shared

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		493	534	514	194	556	590	590	590
Non-Labor		69	109	40	57	131	144	144	144
NSE		0	0	0	0	0	0	0	0
Total		562	643	554	251	687	734	734	734
FTE		5.3	6.1	5.9	2.3	6.7	6.7	6.7	6.7
		Allocations Out							
Labor		29	30	31	11	30	34	34	34
Non-Labor		9	6	2	3	7	8	8	8
NSE		0	0	0	0	0	0	0	0
Total		38	36	33	14	37	42	42	42
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		464	504	483	183	526	556	556	556
Non-Labor		60	103	38	54	124	136	136	136
NSE		0	0	0	0	0	0	0	0
Total		524	607	521	237	650	692	692	692
FTE		5.3	6.1	5.9	2.3	6.7	6.7	6.7	6.7
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		464	504	483	183	526	556	556	556
Non-Labor		60	103	38	54	124	136	136	136
NSE		0	0	0	0	0	0	0	0
Total		524	607	521	237	650	692	692	692
FTE		5.3	6.1	5.9	2.3	6.7	6.7	6.7	6.7

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2109.000 - Pipeline Integrity Technical Support - Shared

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	36	4	0	40	0.50	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	520	127	0	647	6.20	590	144	0	734	6.70
% Allocation										
Retained	94.23%	94.22%				94.29%	94.29%			
SEU	5.77%	5.78%				5.71%	5.71%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	490	120	0	610		556	136	0	692	
SEU	30	7	0	37		34	8	0	42	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	556	131	0	687	6.70	590	144	0	734	6.70
Total Alloc. Out	30	7	0	37		34	8	0	42	
Total Retained	526	124	0	650		556	136	0	692	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	526	124	0	650		556	136	0	692	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	590	144	0	734	6.70	590	144	0	734	6.70
% Allocation										
Retained	94.29%	94.29%				94.29%	94.29%			
SEU	5.71%	5.71%				5.71%	5.71%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	556	136	0	692		556	136	0	692	
SEU	34	8	0	42		34	8	0	42	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	590	144	0	734	6.70	590	144	0	734	6.70
Total Alloc. Out	34	8	0	42		34	8	0	42	
Total Retained	556	136	0	692		556	136	0	692	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	556	136	0	692		556	136	0	692	

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2109.000 - Pipeline Integrity Technical Support - Shared

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Calculations are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2007 filing submitted in February of 2008. SDG&E Transmission pipe totaled 243 miles. SoCal Gas had 3961 miles of Transmission pipe for a total of 4204 miles for both utilities. (243+3961=4204 miles. $243/4204=.057802$. $3961/4204=.942197$) Percentages based on the most current filing is 5.78% for SDG&E and 94.22% for SoCal Gas.

Cost Center Allocation Percentage for 2010

Calculations are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2008 filing submitted in February of 2009. SDG&E Transmission pipe totaled 242 miles. SoCal Gas had 3999 miles of Transmission pipe for a total of 4241 miles for both utilities. (242+3999=4241 miles. $242/4241=.0571$. $3999/4241=.9429$) Percentages based on the most current filing is 5.71% for SDG&E and 94.29% for SoCal Gas.

Cost Center Allocation Percentage for 2011

Calculations are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2008 filing submitted in February of 2009. SDG&E Transmission pipe totaled 242 miles. SoCal Gas had 3999 miles of Transmission pipe for a total of 4241 miles for both utilities. (242+3999=4241 miles. $242/4241=.0571$. $3999/4241=.9429$) Percentages based on the most current filing is 5.71% for SDG&E and 94.29% for SoCal Gas.

Cost Center Allocation Percentage for 2012

Calculations are based on the ratio of SDG&E Transmission pipe to SoCal Gas Transmission pipe based on the Annual Report filed with the Department of Transportation. The most recent data is the 2008 filing submitted in February of 2009. SDG&E Transmission pipe totaled 242 miles. SoCal Gas had 3999 miles of Transmission pipe for a total of 4241 miles for both utilities. (242+3999=4241 miles. $242/4241=.0571$. $3999/4241=.9429$) Percentages based on the most current filing is 5.71% for SDG&E and 94.29% for SoCal Gas.

Southern California Gas Company
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 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2109.000 - Pipeline Integrity Technical Support - Shared

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Zero-Based	0	0	0	590	590	590	590	590	590
Non-Labor	Zero-Based	0	0	0	144	144	144	144	144	144
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	734	734	734	734	734	734
FTE	Zero-Based	0.0	0.0	0.0	6.7	6.7	6.7	6.7	6.7	6.7

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	590	0	0	590	0.0	1-Sided Adj

Labor requirements for resources in support of scheduled integrity assessments and resultant post assessment data analysis and remediation activities. Includes Team Lead, two Senior Engineers, two Engineer I's, and two Engineer II's.

2010	0	144	0	144	0.0	1-Sided Adj
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Non labor expenses to cover training and certification(NACE, KAPA) activities; conference and seminar attendance; participation on Industry committee meetings; expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business; Small tool and equipment purchases.

2010	0	0	0	0	6.7	1-Sided Adj
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Labor requirements for resources in support of scheduled integrity assessments and resultant post assessment data analysis and remediation activities. Includes Team Lead, two Senior Engineers, two Engineer I's, and two Engineer II's.

2010 Total	590	144	0	734	6.7	
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2011	590	0	0	590	0.0	1-Sided Adj
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Labor requirements for resources in support of scheduled integrity assessments and resultant post assessment data analysis and remediation activities. Includes Team Lead, two Senior Engineers, two Engineer I's, and two Engineer II's.

2011	0	144	0	144	0.0	1-Sided Adj
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Southern California Gas Company
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 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2109.000 - Pipeline Integrity Technical Support - Shared

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
-------------------	--------------	-------------	------------	--------------	------------	-----------------

Non labor expenses to cover training and certification(NACE, KAPA) activities; conference and seminar attendance; participation on Industry committee meetings; expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business; Small tool and equipment purchases.

2011	0	0	0	0	6.7	1-Sided Adj
------	---	---	---	---	-----	-------------

Labor requirements for resources in support of scheduled integrity assessments and resultant post assessment data analysis and remediation activities. Includes Team Lead, two Senior Engineers, two Engineer I's, and two Engineer II's.

2011 Total	590	144	0	734	6.7	
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2012	590	0	0	590	0.0	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Labor requirements for resources in support of scheduled integrity assessments and resultant post assessment data analysis and remediation activities. Includes Team Lead, two Senior Engineers, two Engineer I's, and two Engineer II's.

2012	0	144	0	144	0.0	1-Sided Adj
------	---	-----	---	-----	-----	-------------

Non labor expenses to cover training and certification(NACE, KAPA) activities; conference and seminar attendance; participation on Industry committee meetings; expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business; Small tool and equipment purchases.

2012	0	0	0	0	6.7	1-Sided Adj
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Labor requirements for resources in support of scheduled integrity assessments and resultant post assessment data analysis and remediation activities. Includes Team Lead, two Senior Engineers, two Engineer I's, and two Engineer II's.

2012 Total	590	144	0	734	6.7	
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Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2109.000 - Pipeline Integrity Technical Support - Shared

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	375	416	415	160	471
Non-Labor	62	99	38	56	131
NSE	0	0	0	0	0
Total	437	515	452	216	602
FTE	4.5	5.1	5.0	1.9	5.6
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	375	416	415	160	471
Non-Labor	62	99	38	56	131
NSE	0	0	0	0	0
Total	437	515	452	216	602
FTE	4.5	5.1	5.0	1.9	5.6
Vacation & Sick (Nominal \$)					
Labor	64	74	72	31	85
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	64	74	72	31	85
FTE	0.8	1.0	0.9	0.4	1.1
Escalation to 2009\$					
Labor	54	44	27	3	0
Non-Labor	8	9	2	1	0
NSE	0	0	0	0	0
Total	62	52	29	4	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	493	534	514	194	556
Non-Labor	70	108	40	57	131
NSE	0	0	0	0	0
Total	563	642	554	251	687
FTE	5.3	6.1	5.9	2.3	6.7

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2109.000 - Pipeline Integrity Technical Support - Shared

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-2291.000 - Assessment Planning - Shared

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2291.000 - Assessment Planning - Shared

Activity Description:

Activities included in this cost center include those in support of scheduling, tracking and reporting on the progress associated with assessing the pipeline segments within the TIMP program. These activities include: Creating the Baseline Assessment Schedule; Creating the assessment method matrix; Assigning assessment tools; Keeping records of BAP revisions/updates; Quality reviewing and approving updates to the BAP Schedule; Ensuring prior assessments meet current assessment requirements and that required remediation actions have been taken; Initiates MOC approval process. Prepares the PHMSA semi-annual Integrity Management Plan (IMP) report, as well as the annual DOT report for both utilities.

Forecast Methodology:

Labor - Base YR Rec

Labor expenditures reflected in base year 2009 are expected to remain stable through 2012 and beyond. Therefore, base year 2009 was chosen as the forecasting methodology.

Non-Labor - Base YR Rec

Non labor expenditures reflected in base year 2009 are expected to remain stable through 2012 and beyond. Therefore, base year 2009 was chosen as the forecasting methodology.

NSE - Base YR Rec

There are no Non Standard Escalation expenses in this cost center.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2291.000 - Assessment Planning - Shared

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		0	0	0	190	342	342	342	342
Non-Labor		0	0	0	1	1	1	1	1
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	191	343	343	343	343
FTE		0.0	0.0	0.0	2.3	4.0	4.0	4.0	4.0
		Allocations Out							
Labor		0	0	0	27	49	49	49	49
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	27	49	49	49	49
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		0	0	0	163	293	293	293	293
Non-Labor		0	0	0	1	1	1	1	1
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	164	294	294	294	294
FTE		0.0	0.0	0.0	2.3	4.0	4.0	4.0	4.0
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		0	0	0	163	293	293	293	293
Non-Labor		0	0	0	1	1	1	1	1
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	164	294	294	294	294
FTE		0.0	0.0	0.0	2.3	4.0	4.0	4.0	4.0

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2291.000 - Assessment Planning - Shared

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	342	1	0	343	4.00	342	1	0	343	4.00
% Allocation										
Retained	85.72%	85.73%				85.76%	85.76%			
SEU	14.28%	14.27%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	293	1	0	294		293	1	0	294	
SEU	49	0	0	49		49	0	0	49	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	342	1	0	343	4.00	342	1	0	343	4.00
Total Alloc. Out	49	0	0	49		49	0	0	49	
Total Retained	293	1	0	294		293	1	0	294	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	293	1	0	294		293	1	0	294	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	342	1	0	343	4.00	342	1	0	343	4.00
% Allocation										
Retained	85.76%	85.76%				85.76%	85.76%			
SEU	14.24%	14.24%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	293	1	0	294		293	1	0	294	
SEU	49	0	0	49		49	0	0	49	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	342	1	0	343	4.00	342	1	0	343	4.00
Total Alloc. Out	49	0	0	49		49	0	0	49	
Total Retained	293	1	0	294		293	1	0	294	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	293	1	0	294		293	1	0	294	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2291.000 - Assessment Planning - Shared

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 243 miles. SDG&E Distribution main is 8338, totaling 8581 miles. SoCal Gas has 3961 miles of Transmission pipe and 47566 miles of distribution main for a total of 51527 miles. $(8581+51527=60,108 \text{ miles. } 8581/60108=.1427597.$
 $51527/60108=.857240, \text{ or } 14.28\% \text{ and } 85.72\%.)$

Cost Center Allocation Percentage for 2010

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2011

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2012

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2291.000 - Assessment Planning - Shared

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Base YR Rec	342	342	342	0	0	0	342	342	342
Non-Labor	Base YR Rec	1	1	1	0	0	0	1	1	1
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		343	343	343	0	0	0	343	343	343
FTE	Base YR Rec	4.0	4.0	4.0	0.0	0.0	0.0	4.0	4.0	4.0

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2291.000 - Assessment Planning - Shared

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	157	290
Non-Labor	0	0	0	1	1
NSE	0	0	0	0	0
Total	0	0	0	158	291
FTE	0.0	0.0	0.0	1.9	3.4
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	157	290
Non-Labor	0	0	0	1	1
NSE	0	0	0	0	0
Total	0	0	0	158	291
FTE	0.0	0.0	0.0	1.9	3.4
Vacation & Sick (Nominal \$)					
Labor	0	0	0	30	52
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	30	52
FTE	0.0	0.0	0.0	0.4	0.6
Escalation to 2009\$					
Labor	0	0	0	3	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	3	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	0	0	0	190	342
Non-Labor	0	0	0	1	1
NSE	0	0	0	0	0
Total	0	0	0	191	344
FTE	0.0	0.0	0.0	2.3	4.0

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2291.000 - Assessment Planning - Shared

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-2293.000 - Preventative and Mitigation - Shared

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2293.000 - Preventative and Mitigation - Shared

Activity Description:

The activities undertaken by Preventive & Mitigative Measures are split between support of Integrity Management P&M activities and providing policy and field support for the Utilities. These activities include evaluating the effectiveness of the existing pipeline maintenance programs and enhancing when necessary; establishing future repair and assessment schedules; coordinates mitigation planning for seismic and other outside force threats; Risk - Code interpretation; policy development; risk model maintenance. In addition to this work, this group is also responsible for maintaining external corrosion control policy and field support for cathodic protection activities within the Utilities.

Forecast Methodology:

Labor - Zero-Based

A zero-based forecast was employed to describe the activities of this workgroup. This forecasting methodology best describes this workgroup based on the level of work and slight increase in activities associated with developing, implementing, and monitoring preventative and mitigative measures.

Non-Labor - Zero-Based

A zero-based forecast was employed to describe the activities of this workgroup. This forecasting methodology best describes this workgroup based on the level of work and slight increase in activities associated with developing, implementing, and monitoring preventative and mitigative measures.

NSE - Zero-Based

There are no Non Standard Escalation expenses in this cost center.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2293.000 - Preventative and Mitigation - Shared

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		0	0	0	58	533	557	557	557
Non-Labor		0	0	0	18	94	100	100	100
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	76	627	657	657	657
FTE		0.0	0.0	0.0	0.7	6.3	7.1	7.1	7.1
		Allocations Out							
Labor		0	0	0	8	76	79	79	79
Non-Labor		0	0	0	3	2	14	14	14
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	11	78	93	93	93
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		0	0	0	50	457	478	478	478
Non-Labor		0	0	0	15	92	86	86	86
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	65	549	564	564	564
FTE		0.0	0.0	0.0	0.7	6.3	7.1	7.1	7.1
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		0	0	0	50	457	478	478	478
Non-Labor		0	0	0	15	92	86	86	86
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	65	549	564	564	564
FTE		0.0	0.0	0.0	0.7	6.3	7.1	7.1	7.1

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2293.000 - Preventative and Mitigation - Shared

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	77	0	77	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	533	17	0	550	6.30	557	100	0	657	7.10
% Allocation										
Retained	85.73%	85.72%				85.76%	85.76%			
SEU	14.27%	14.28%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	457	15	0	472		478	86	0	564	
SEU	76	2	0	78		79	14	0	93	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	533	94	0	627	6.30	557	100	0	657	7.10
Total Alloc. Out	76	2	0	78		79	14	0	93	
Total Retained	457	92	0	549		478	86	0	564	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	457	92	0	549		478	86	0	564	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	557	100	0	657	7.10	557	100	0	657	7.10
% Allocation										
Retained	85.76%	85.76%				85.76%	85.76%			
SEU	14.24%	14.24%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	478	86	0	564		478	86	0	564	
SEU	79	14	0	93		79	14	0	93	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	557	100	0	657	7.10	557	100	0	657	7.10
Total Alloc. Out	79	14	0	93		79	14	0	93	
Total Retained	478	86	0	564		478	86	0	564	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	478	86	0	564		478	86	0	564	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2293.000 - Preventative and Mitigation - Shared

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 243 miles. SDG&E Distribution main is 8338, totaling 8581 miles. SoCal Gas has 3961 miles of Transmission pipe and 47566 miles of distribution main for a total of 51527 miles. $(8581+51527=60,108 \text{ miles. } 8581/60108=.1427597.$
 $51527/60108=.857240, \text{ or } 14.28\% \text{ and } 85.72\%.)$

Cost Center Allocation Percentage for 2010

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2011

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2012

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2293.000 - Preventative and Mitigation - Shared

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		2010	2011	2012	2010	2011	2012	2010	2011	2012
Labor	Zero-Based	0	0	0	557	557	557	557	557	557
Non-Labor	Zero-Based	0	0	0	100	100	100	100	100	100
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	657	657	657	657	657	657
FTE	Zero-Based	0.0	0.0	0.0	7.1	7.1	7.1	7.1	7.1	7.1

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	557	0	0	557	0.0	1-Sided Adj

Labor requirements for resources in support of threat and risk policy maintenance and application as well as post integrity assessment activities related to preventative and mitigative measure analysis and application. Includes Team Lead, two Project Manager I's, an Engineer II, two Technical Advisor's, and a Project Specialist.

2010	0	100	0	100	0.0	1-Sided Adj
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Non labor expenses to cover training and certification(NACE, KAPA) activities; conference and seminar attendance; participation on Industry committee meetings; expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business; Small tool and equipment purchases

2010	0	0	0	0	7.1	1-Sided Adj
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Labor requirements for resources in support of threat and risk policy maintenance and application as well as post integrity assessment activities related to preventative and mitigative measure analysis and application. Includes Team Lead, two Project Manager I's, an Engineer II, two Technical Advisor's, and a Project Specialist.

2010 Total	557	100	0	657	7.1	
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2011	557	0	0	557	0.0	1-Sided Adj
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Labor requirements for resources in support of threat and risk policy maintenance and application as well as post integrity assessment activities related to preventative and mitigative measure analysis and application. Includes Team Lead, two Project Manager I's, an Engineer II, two Technical Advisor's, and a Project Specialist.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2293.000 - Preventative and Mitigation - Shared

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	0	0	0	0	7.1	1-Sided Adj

Labor requirements for resources in support of threat and risk policy maintenance and application as well as post integrity assessment activities related to preventative and mitigative measure analysis and application. Includes Team Lead, two Project Manager I's, an Engineer II, two Technical Advisor's, and a Project Specialist.

2011	0	100	0	100	0.0	1-Sided Adj
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Non labor expenses to cover training and certification(NACE, KAPA) activities; conference and seminar attendance; participation on Industry committee meetings; expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business; Small tool and equipment purchases

2011 Total	557	100	0	657	7.1	
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2012	557	0	0	557	0.0	1-Sided Adj
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Labor requirements for resources in support of threat and risk policy maintenance and application as well as post integrity assessment activities related to preventative and mitigative measure analysis and application. Includes Team Lead, two Project Manager I's, an Engineer II, two Technical Advisor's, and a Project Specialist.

2012	0	0	0	0	7.1	1-Sided Adj
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Labor requirements for resources in support of threat and risk policy maintenance and application as well as post integrity assessment activities related to preventative and mitigative measure analysis and application. Includes Team Lead, two Project Manager I's, an Engineer II, two Technical Advisor's, and a Project Specialist.

2012	0	100	0	100	0.0	1-Sided Adj
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Non labor expenses to cover training and certification(NACE, KAPA) activities; conference and seminar attendance; participation on Industry committee meetings; expenses associated with travel/ airfare/ car rental/ lodging/ meals while attending to company business; Small tool and equipment purchases

2012 Total	557	100	0	657	7.1	
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Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2293.000 - Preventative and Mitigation - Shared

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	48	452
Non-Labor	0	0	0	18	93
NSE	0	0	0	0	0
Total	0	0	0	66	545
FTE	0.0	0.0	0.0	0.6	5.3
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	48	452
Non-Labor	0	0	0	18	93
NSE	0	0	0	0	0
Total	0	0	0	66	545
FTE	0.0	0.0	0.0	0.6	5.3
Vacation & Sick (Nominal \$)					
Labor	0	0	0	9	82
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	9	82
FTE	0.0	0.0	0.0	0.1	1.0
Escalation to 2009\$					
Labor	0	0	0	1	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	1	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	0	0	0	58	533
Non-Labor	0	0	0	18	93
NSE	0	0	0	0	0
Total	0	0	0	76	627
FTE	0.0	0.0	0.0	0.7	6.3

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2293.000 - Preventative and Mitigation - Shared

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-2297.000 - Data Management and GPS Support - Shared

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2297.000 - Data Management and GPS Support - Shared

Activity Description:

The DMG group works with the pipeline integrity assessment and analysis teams as well as the local operating groups in providing assistance and solutions to data generating and data gathering activities. Team members work with project managers in siting dig locations; locating and characterizing mainline pipe, laterals, and appurtenances; developing and maintaining field data collection applications; managing incoming field data for entry to high pressure pipeline database; etc . Their activities are focused to ensure a framework for the gathering, review, and integration of pipeline data with emphasis on the alignment and preservation of that data. Additional and ongoing emphasis shall be placed on data consistency, reliability, repeatability, and defensibility.

Forecast Methodology:

Labor - Zero-Based

A zero-based forecast was employed to describe the activities of this workgroup. This forecasting methodology best describes this workgroup based on the level of work and the increase in field activities driven by the increase in the number of projects.

Non-Labor - Zero-Based

A zero-based forecast was employed to describe the activities of this workgroup. This forecasting methodology best describes this workgroup based on the level of work and the increase in field activities driven by the increase in the number of projects.

NSE - Zero-Based

There are no Non Standard Escalation expenses associated with this cost center.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2297.000 - Data Management and GPS Support - Shared

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		0	0	0	97	583	614	614	614
Non-Labor		0	0	0	3	40	49	49	49
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	100	623	663	663	663
FTE		0.0	0.0	0.0	1.2	7.0	8.0	8.0	8.0
		Allocations Out							
Labor		0	0	0	14	82	87	87	87
Non-Labor		0	0	0	0	5	7	7	7
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	14	87	94	94	94
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		0	0	0	83	501	527	527	527
Non-Labor		0	0	0	3	35	42	42	42
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	86	536	569	569	569
FTE		0.0	0.0	0.0	1.2	7.0	8.0	8.0	8.0
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		0	0	0	83	501	527	527	527
Non-Labor		0	0	0	3	35	42	42	42
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	86	536	569	569	569
FTE		0.0	0.0	0.0	1.2	7.0	8.0	8.0	8.0

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2297.000 - Data Management and GPS Support - Shared

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	11	3	0	14	0.10	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	572	37	0	609	6.90	614	49	0	663	8.00
% Allocation										
Retained	85.73%	85.72%				85.76%	85.76%			
SEU	14.27%	14.28%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	490	32	0	522		527	42	0	569	
SEU	82	5	0	87		87	7	0	94	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	583	40	0	623	7.00	614	49	0	663	8.00
Total Alloc. Out	82	5	0	87		87	7	0	94	
Total Retained	501	35	0	536		527	42	0	569	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	501	35	0	536		527	42	0	569	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	614	49	0	663	8.00	614	49	0	663	8.00
% Allocation										
Retained	85.76%	85.76%				85.76%	85.76%			
SEU	14.24%	14.24%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	527	42	0	569		527	42	0	569	
SEU	87	7	0	94		87	7	0	94	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	614	49	0	663	8.00	614	49	0	663	8.00
Total Alloc. Out	87	7	0	94		87	7	0	94	
Total Retained	527	42	0	569		527	42	0	569	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	527	42	0	569		527	42	0	569	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2297.000 - Data Management and GPS Support - Shared

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 243 miles. SDG&E Distribution main is 8338, totaling 8581 miles. SoCal Gas has 3961 miles of Transmission pipe and 47566 miles of distribution main for a total of 51527 miles. $(8581+51527=60,108 \text{ miles. } 8581/60108=.1427597.$
 $51527/60108=.857240, \text{ or } 14.28\% \text{ and } 85.72\%.)$

Cost Center Allocation Percentage for 2010

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2011

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2012

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2297.000 - Data Management and GPS Support - Shared

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Zero-Based	0	0	0	614	614	614	614	614	614
Non-Labor	Zero-Based	0	0	0	49	49	49	49	49	49
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	663	663	663	663	663	663
FTE	Zero-Based	0.0	0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	614	0	0	614	0.0	1-Sided Adj

Labor requirements for resources in support of pre-assessment data collection, general data collection and management, GPS related pipeline feature location, and post assessment anomaly locating. Includes Team Lead, two Project Manager I's, an Engineer I, three Technical Advisor's, and a Technical Specialist

2010	0	0	0	0	8.0	1-Sided Adj
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Labor requirements for resources in support of pre-assessment data collection, general data collection and management, GPS related pipeline feature location, and post assessment anomaly locating. Includes Team Lead, two Project Manager I's, an Engineer I, three Technical Advisor's, and a Technical

2010	0	49	0	49	0.0	1-Sided Adj
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Non labor expenses to cover job related mileage expenses while traveling to and from project locations. Also covers training and certification activities; conference and seminar attendance.

2010 Total	614	49	0	663	8.0	
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2011	614	0	0	614	0.0	1-Sided Adj
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Labor requirements for resources in support of pre-assessment data collection, general data collection and management, GPS related pipeline feature location, and post assessment anomaly locating. Includes Team Lead, two Project Manager I's, an Engineer I, three Technical Advisor's, and a Technical

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2297.000 - Data Management and GPS Support - Shared

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011	0	0	0	0	8.0	1-Sided Adj

Labor requirements for resources in support of pre-assessment data collection, general data collection and management, GPS related pipeline feature location, and post assessment anomaly locating. Includes Team Lead, two Project Manager I's, an Engineer I, three Technical Advisor's, and a Technical

2011	0	49	0	49	0.0	1-Sided Adj
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Non labor expenses to cover job related mileage expenses while traveling to and from project locations. Also covers training and certification activities; conference and seminar attendance..

2011 Total	614	49	0	663	8.0	
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2012	614	0	0	614	0.0	1-Sided Adj
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Labor requirements for resources in support of pre-assessment data collection, general data collection and management, GPS related pipeline feature location, and post assessment anomaly locating. Includes Team Lead, two Project Manager I's, an Engineer I, three Technical Advisor's, and a Technical

2012	0	0	0	0	8.0	1-Sided Adj
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Labor requirements for resources in support of pre-assessment data collection, general data collection and management, GPS related pipeline feature location, and post assessment anomaly locating. Includes Team Lead, two Project Manager I's, an Engineer I, three Technical Advisor's, and a Technical

2012	0	49	0	49	0.0	1-Sided Adj
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Non labor expenses to cover job related mileage expenses while traveling to and from project locations. Also covers training and certification activities; conference and seminar attendance.

2012 Total	614	49	0	663	8.0	
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Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2297.000 - Data Management and GPS Support - Shared

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	80	493
Non-Labor	0	0	0	2	40
NSE	0	0	0	0	0
Total	0	0	0	82	533
FTE	0.0	0.0	0.0	1.0	5.9
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	0	0	0	80	493
Non-Labor	0	0	0	2	40
NSE	0	0	0	0	0
Total	0	0	0	82	533
FTE	0.0	0.0	0.0	1.0	5.9
Vacation & Sick (Nominal \$)					
Labor	0	0	0	15	89
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	15	89
FTE	0.0	0.0	0.0	0.2	1.1
Escalation to 2009\$					
Labor	0	0	0	1	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	1	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	0	0	0	97	582
Non-Labor	0	0	0	3	40
NSE	0	0	0	0	0
Total	0	0	0	99	622
FTE	0.0	0.0	0.0	1.2	7.0

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2297.000 - Data Management and GPS Support - Shared

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Beginning of Workpaper
2200-2325.000 - Pipeline Integrity/ Ops Tech Support - Shared

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2325.000 - Pipeline Integrity/ Ops Tech Support - Shared

Activity Description:

New cost center created cost center to track expenses incurred by GIS and database type support that have historically been imbedded in other Ops Tech cost centers. This work group performs mapping and database support functions in direct support of Transmission Pipeline Integrity activities. These functions include ongoing development and maintenance of the Geographic Information System (GIS) which will be used to satisfy federally mandated Pipeline Integrity rule requirements, support of the High Pressure Pipeline Database and related Geofields applications that are associated with Pipeline Integrity. Data entry, report creation and generation as well as standard and custom GIS based mapping products.

Forecast Methodology:

Labor - Zero-Based

Zero Based forecast since cost center is newly created and no direct historical spending levels.

Non-Labor - Zero-Based

Zero Based forecast since cost center is newly created and no direct historical spending levels.

NSE - Zero-Based

There are no Non-Standard Escalation expenses in the cost center.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2325.000 - Pipeline Integrity/ Ops Tech Support - Shared

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		0	0	0	0	0	1,105	1,105	1,105
Non-Labor		0	0	0	0	0	710	710	710
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	1,815	1,815	1,815
FTE		0.0	0.0	0.0	0.0	0.0	17.0	17.0	17.0
		Allocations Out							
Labor		0	0	0	0	0	157	157	157
Non-Labor		0	0	0	0	0	101	101	101
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	258	258	258
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		0	0	0	0	0	948	948	948
Non-Labor		0	0	0	0	0	609	609	609
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	1,557	1,557	1,557
FTE		0.0	0.0	0.0	0.0	0.0	17.0	17.0	17.0
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		0	0	0	0	0	948	948	948
Non-Labor		0	0	0	0	0	609	609	609
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	1,557	1,557	1,557
FTE		0.0	0.0	0.0	0.0	0.0	17.0	17.0	17.0

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2325.000 - Pipeline Integrity/ Ops Tech Support - Shared

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	0	0	0	0	0.00	1,105	710	0	1,815	17.00
% Allocation										
Retained	100.00%	100.00%				85.76%	85.76%			
SEU	0.00%	0.00%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	0	0	0	0		948	609	0	1,557	
SEU	0	0	0	0		157	101	0	258	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	0	0	0	0	0.00	1,105	710	0	1,815	17.00
Total Alloc. Out	0	0	0	0		157	101	0	258	
Total Retained	0	0	0	0		948	609	0	1,557	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	0	0	0	0		948	609	0	1,557	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	1,105	710	0	1,815	17.00	1,105	710	0	1,815	17.00
% Allocation										
Retained	85.76%	85.76%				85.76%	85.76%			
SEU	14.24%	14.24%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	948	609	0	1,557		948	609	0	1,557	
SEU	157	101	0	258		157	101	0	258	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	1,105	710	0	1,815	17.00	1,105	710	0	1,815	17.00
Total Alloc. Out	157	101	0	258		157	101	0	258	
Total Retained	948	609	0	1,557		948	609	0	1,557	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	948	609	0	1,557		948	609	0	1,557	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2325.000 - Pipeline Integrity/ Ops Tech Support - Shared

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Cost Center was opened January 1, 2010

Cost Center Allocation Percentage for 2010

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424. 51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2011

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424. 51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2012

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424. 51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: B. Pipeline Integrity
Category-Sub: 1. Pipeline Integrity
Cost Center: 2200-2325.000 - Pipeline Integrity/ Ops Tech Support - Shared

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Zero-Based	0	0	0	1,105	1,105	1,105	1,105	1,105	1,105
Non-Labor	Zero-Based	0	0	0	710	710	710	710	710	710
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	1,815	1,815	1,815	1,815	1,815	1,815
FTE	Zero-Based	0.0	0.0	0.0	17.0	17.0	17.0	17.0	17.0	17.0

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010	481	0	0	481	0.0	1-Sided Adj

Transfer 8 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.

2010	0	0	0	0	8.0	1-Sided Adj
------	---	---	---	---	-----	-------------

Transfer 8 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.

2010	384	0	0	384	0.0	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Transfer 5 FTE's from NSS Ops Tech cost center 2200-1177 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.

2010	0	0	0	0	5.0	1-Sided Adj
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Transfer 5 FTE's from NSS Ops Tech cost center 2200-1177 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.

2010	240	0	0	240	0.0	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Transfer funds from 2EN001 workgroup in support of the creation of new PIP cost center 2200-2325. Due to increased amount of PIP support work required this move allows costs to be accurately tracked within the engineering department.

2010	0	710	0	710	0.0	1-Sided Adj
------	---	-----	---	-----	-----	-------------

Transfer funds from 2EN001 workgroup in support of the creation of new PIP cost center 2200-2325. Due to increased amount of PIP support work required this move allows costs to be accurately tracked within the engineering department.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2325.000 - Pipeline Integrity/ Ops Tech Support - Shared

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2010	0	0	0	0	4.0	1-Sided Adj

Incremental personnel required to support PIP activities in new cost center 2200-2325.

2010 Total	1,105	710	0	1,815	17.0	
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2011	481	0	0	481	0.0	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Transfer 8 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.

2011	0	0	0	0	8.0	1-Sided Adj
------	---	---	---	---	-----	-------------

Transfer 8 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.

2011	384	0	0	384	0.0	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Transfer 5 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.

2011	0	0	0	0	5.0	1-Sided Adj
------	---	---	---	---	-----	-------------

Transfer 5 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.

2011	240	0	0	240	0.0	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Transfer funds from 2EN001 workgroup in support of the creation of new PIP cost center 2200-2325. Due to increased amount of PIP support work required this move allows costs to be accurately tracked within the engineering department.

2011	0	710	0	710	0.0	1-Sided Adj
------	---	-----	---	-----	-----	-------------

Transfer funds from 2EN001 workgroup in support of the creation of new PIP cost center 2200-2325. Due to increased amount of PIP support work required this move allows costs to be accurately tracked within the engineering department.

2011	0	0	0	0	4.0	1-Sided Adj
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Incremental personnel required to support PIP activities in new cost center 2200-2325.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2325.000 - Pipeline Integrity/ Ops Tech Support - Shared

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2011 Total	1,105	710	0	1,815	17.0	
2012	481	0	0	481	0.0	1-Sided Adj
Transfer 8 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.						
2012	0	0	0	0	8.0	1-Sided Adj
Transfer 8 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.						
2012	384	0	0	384	0.0	1-Sided Adj
Transfer 5 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.						
2012	0	0	0	0	5.0	1-Sided Adj
Transfer 5 FTE's from NSS Ops Tech cost center 2200-0314 to USS Pipeline Integrity/OpsTech cost center 2200-2325. Increased PIP work, move allows costs to be accurately tracked.						
2012	240	0	0	240	0.0	1-Sided Adj
Transfer funds from 2EN001 workgroup in support of the creation of new PIP cost center 2200-2325. Due to increased amount of PIP support work required this move allows costs to be accurately tracked within the engineering department.						
2012	0	710	0	710	0.0	1-Sided Adj
Transfer funds from 2EN001 workgroup in support of the creation of new PIP cost center 2200-2325. Due to increased amount of PIP support work required this move allows costs to be accurately tracked within the engineering department.						
2012	0	0	0	0	4.0	1-Sided Adj
Incremental personnel required to support PIP activities in new cost center 2200-2325.						
2012 Total	1,105	710	0	1,815	17.0	

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2325.000 - Pipeline Integrity/ Ops Tech Support - Shared

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (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
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	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
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 2009\$					
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 2009\$)					
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

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: B. Pipeline Integrity
 Category-Sub: 1. Pipeline Integrity
 Cost Center: 2200-2325.000 - Pipeline Integrity/ Ops Tech Support - Shared

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution IMP
 Cost Center: 2200-2295.000

Summary for Category: C. Pipeline Integrity - Distribution IMP

	In 2009\$ (000) "Book Expense"			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
Labor	173	172	172	317
Non-Labor	17	17	17	26
NSE	0	0	0	0
Total	190	189	189	343
FTE	2.5	2.5	2.5	4.5

Cost Centers belonging to this Category:

2200-2295.000 DIMP & Special Projects - shared

Labor	173	172	172	317
Non-Labor	17	17	17	26
NSE	0	0	0	0
Total	190	189	189	343
FTE	2.5	2.5	2.5	4.5

Beginning of Workpaper
2200-2295.000 - DIMP & Special Projects - shared

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: C. Pipeline Integrity - Distribution IMP
Category-Sub: 1. Pipeline Integrity Distribution
Cost Center: 2200-2295.000 - DIMP & Special Projects - shared

Activity Description:

The activities associated with this cost center focus on policy and program development and implementation for the Distribution Integrity Management Program. Specific activities include: Rule interpretation; Written Plan and Program development; Threat evaluation, data collection and analysis to determine areas for DIMP driven improvement; Implementation oversight of DIMP specific improvement programs; Program monitoring and result reporting.

Forecast Methodology:

Labor - Base YR Rec

Base year 2009 was the first full year for this cost center. Current staffing levels are appropriate for the expected work load in 2010 and 2011, therefore base year was chosen as the forecasting methodology. Two additional positions are requested for 2012 to meet the planned increase in DIMP program activities and to continue the development and implementation of the program for both SoCalGas and SDG&E.

Non-Labor - Base YR Rec

Base year 2009 was the first full year for this cost center. Current staffing levels are appropriate for the expected work load in 2010 and 2011, therefore base year was chosen as the forecasting methodology. Two additional positions are requested for 2012 to meet the planned increase in DIMP program activities and to continue the development and implementation of the program for both SoCalGas and SDG&E.

NSE - Base YR Rec

No Non Standard Escalation expenses associated with this cost center.

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution IMP
 Category-Sub: 1. Pipeline Integrity Distribution
 Cost Center: 2200-2295.000 - DIMP & Special Projects - shared

Summary of Results:

Years	In 2009\$ (000)								
	Adjusted-Recorded					Adjusted-Forecast			
	2005	2006	2007	2008	2009	2010	2011	2012	
	Total Incurred (100% Level)								
Labor	0	0	0	94	202	202	202	372	
Non-Labor	0	0	0	2	20	20	20	30	
NSE	0	0	0	0	0	0	0	0	
Total	0	0	0	96	222	222	222	402	
FTE	0.0	0.0	0.0	1.2	2.5	2.5	2.5	4.5	
	Allocations Out								
Labor	0	0	0	13	29	30	30	55	
Non-Labor	0	0	0	0	3	3	3	4	
NSE	0	0	0	0	0	0	0	0	
Total	0	0	0	13	32	33	33	59	
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Retained								
Labor	0	0	0	81	173	172	172	317	
Non-Labor	0	0	0	2	17	17	17	26	
NSE	0	0	0	0	0	0	0	0	
Total	0	0	0	83	190	189	189	343	
FTE	0.0	0.0	0.0	1.2	2.5	2.5	2.5	4.5	
	Allocations In								
Labor	0	0	0	0	0	0	0	0	
Non-Labor	0	0	0	0	0	0	0	0	
NSE	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Book Expense								
Labor	0	0	0	81	173	172	172	317	
Non-Labor	0	0	0	2	17	17	17	26	
NSE	0	0	0	0	0	0	0	0	
Total	0	0	0	83	190	189	189	343	
FTE	0.0	0.0	0.0	1.2	2.5	2.5	2.5	4.5	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: C. Pipeline Integrity - Distribution IMP
Category-Sub: 1. Pipeline Integrity Distribution
Cost Center: 2200-2295.000 - DIMP & Special Projects - shared

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	202	20	0	222	2.50	202	20	0	222	2.50
% Allocation										
Retained	85.72%	85.72%				85.11%	85.11%			
SEU	14.28%	14.28%				14.89%	14.89%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	173	17	0	190		172	17	0	189	
SEU	29	3	0	32		30	3	0	33	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	202	20	0	222	2.50	202	20	0	222	2.50
Total Alloc. Out	29	3	0	32		30	3	0	33	
Total Retained	173	17	0	190		172	17	0	189	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	173	17	0	190		172	17	0	189	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	202	20	0	222	2.50	372	30	0	402	4.50
% Allocation										
Retained	85.11%	85.11%				85.11%	85.11%			
SEU	14.89%	14.89%				14.89%	14.89%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	172	17	0	189		317	26	0	343	
SEU	30	3	0	33		55	4	0	59	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	202	20	0	222	2.50	372	30	0	402	4.50
Total Alloc. Out	30	3	0	33		55	4	0	59	
Total Retained	172	17	0	189		317	26	0	343	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	172	17	0	189		317	26	0	343	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: C. Pipeline Integrity - Distribution IMP
Category-Sub: 1. Pipeline Integrity Distribution
Cost Center: 2200-2295.000 - DIMP & Special Projects - shared

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 243 miles. SDG&E Distribution main is 8338, totaling 8581 miles. SoCal Gas has 3961 miles of Transmission pipe and 47566 miles of distribution main for a total of 51527 miles. $(8581+51527=60,108 \text{ miles. } 8581/60108=.1427597. 51527/60108=.857240, \text{ or } 14.28\% \text{ and } 85.72\%.)$

Cost Center Allocation Percentage for 2010

Focus of activity changed from Transmission and Distribution work in 2009 to Distribution work in 2010 onward. Calculations are based on the ratio of SDG&E Distribution main to SoCal Gas Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Distribution main is 8317 miles. SoCal Gas has 47540 miles of distribution main for a total of 55,857 miles of Distribution main. $(8,317+47,540=55,857 \text{ miles.}) 8317/55857=.1489. 47540/55857=.8511, \text{ or } 14.89\% \text{ of Distribution main at SDG\&E and } 85.11\% \text{ of Distribution main at SoCal Gas.}$

Cost Center Allocation Percentage for 2011

Calculations are based on the ratio of SDG&E Distribution main to SoCal Gas Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Distribution main is 8317 miles. SoCal Gas has 47540 miles of distribution main for a total of 55,857 miles of Distribution main. $(8,317+47,540=55,857 \text{ miles.}) 8317/55857=.1489. 47540/55857=.8511, \text{ or } 14.89\% \text{ of Distribution main at SDG\&E and } 85.11\% \text{ of Distribution main at SoCal Gas.}$

Cost Center Allocation Percentage for 2012

Calculations are based on the ratio of SDG&E Distribution main to SoCal Gas Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Distribution main is 8317 miles. SoCal Gas has 47540 miles of distribution main for a total of 55,857 miles of Distribution main. $(8,317+47,540=55,857 \text{ miles.}) 8317/55857=.1489. 47540/55857=.8511, \text{ or } 14.89\% \text{ of Distribution main at SDG\&E and } 85.11\% \text{ of Distribution main at SoCal Gas.}$

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution IMP
 Category-Sub: 1. Pipeline Integrity Distribution
 Cost Center: 2200-2295.000 - DIMP & Special Projects - shared

Forecast Summary:

Forecast Method		In 2009 \$(000) "Incurred Costs"								
		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		2010	2011	2012	2010	2011	2012	2010	2011	2012
Labor	Base YR Rec	202	202	202	0	0	170	202	202	372
Non-Labor	Base YR Rec	20	20	20	0	0	10	20	20	30
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		222	222	222	0	0	180	222	222	402
FTE	Base YR Rec	2.5	2.5	2.5	0.0	0.0	2.0	2.5	2.5	4.5

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012	170	0	0	170	0.0	1-Sided Adj
Two additional positions to staff the DIMP program management organization (PMO). Position responsibilities include program development, process modificationsto allow DIMP driven integration, field liaison for data collection and analysis, DIMP related training, etc.						
2012	0	10	0	10	0.0	1-Sided Adj
Two additional positions to staff the DIMP program management organization (PMO). Position responsibilities include program development, process modificationsto allow DIMP driven integration, field liaison for data collection and analysis, DIMP related training, etc.						
2012	0	0	0	0	2.0	1-Sided Adj
Two additional positions to staff the DIMP program management organization (PMO). Position responsibilities include program development, process modificationsto allow DIMP driven integration, field liaison for data collection and analysis, DIMP related training, etc.						
2012 Total	170	10	0	180	2.0	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: C. Pipeline Integrity - Distribution IMP
Category-Sub: 1. Pipeline Integrity Distribution
Cost Center: 2200-2295.000 - DIMP & Special Projects - shared

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	77	171
Non-Labor	0	0	0	2	20
NSE	0	0	0	0	0
Total	0	0	0	80	191
FTE	0.0	0.0	0.0	1.0	2.1
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	0	0	0	77	171
Non-Labor	0	0	0	2	20
NSE	0	0	0	0	0
Total	0	0	0	80	191
FTE	0.0	0.0	0.0	1.0	2.1
Vacation & Sick (Nominal \$)					
Labor	0	0	0	15	31
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	15	31
FTE	0.0	0.0	0.0	0.2	0.4
Escalation to 2009\$					
Labor	0	0	0	1	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	1	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	0	0	0	94	202
Non-Labor	0	0	0	2	20
NSE	0	0	0	0	0
Total	0	0	0	96	222
FTE	0.0	0.0	0.0	1.2	2.5

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: C. Pipeline Integrity - Distribution IMP
 Category-Sub: 1. Pipeline Integrity Distribution
 Cost Center: 2200-2295.000 - DIMP & Special Projects - shared

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Pipeline Design & Gas Standards
 Cost Center: 2200-0322.000

Summary for Category: D. Pipeline Design & Gas Standards

	In 2009\$ (000) "Book Expense"			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
Labor	488	488	488	488
Non-Labor	115	182	182	182
NSE	0	0	0	0
Total	603	670	670	670
FTE	5.9	5.9	5.9	5.9

Cost Centers belonging to this Category:

2200-0322.000 Pipeline Design and Gas Standards

Labor	488	488	488	488
Non-Labor	115	182	182	182
NSE	0	0	0	0
Total	603	670	670	670
FTE	5.9	5.9	5.9	5.9

Beginning of Workpaper
2200-0322.000 - Pipeline Design and Gas Standards

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: D. Pipeline Design & Gas Standards
Category-Sub: 1. Pipeline Design & Gas Standards
Cost Center: 2200-0322.000 - Pipeline Design and Gas Standards

Activity Description:

This group develops and manages engineering gas standards, develops publishing criteria, ensures compliance with publication requirements, ensures review and revision of those standards governed by the O&M plan annually and other Gas Standards every five years. The gas standards comprise the policy and procedures which govern the design, operations, and maintenance of the transmission and distribution systems and are based on the relevant regulatory codes. This department also facilitates integration of SoCalGas and SDG&E Gas Standards yet to be combined into single comprehensive documents. SoCalGas Gas Engineering is the owner of all the engineering standards for the two utilities.

Forecast Methodology:

Labor - Base YR Rec

As evident by historical data, the level of activity and associated expenses has increased from 2005 through 2009. It is anticipated that the activity levels depicted in base year 2009 spending will continue on as an adequate operating level. As such this serves as a reasonable foundation for future forecasting since it reflects the most current actual operating conditions.

Non-Labor - 4-YR Average

Based on forecasted needs, the four year historical average is the most accurate method to reflect the ongoing operational expense requirements for this cost center.

NSE - Base YR Rec

There are no non standard escalation expenses in this cost center.

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: D. Pipeline Design & Gas Standards
Category-Sub: 1. Pipeline Design & Gas Standards
Cost Center: 2200-0322.000 - Pipeline Design and Gas Standards

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		349	421	424	489	566	566	566	566
Non-Labor		19	134	307	200	123	190	190	190
NSE		0	0	0	0	0	0	0	0
Total		368	555	731	689	689	756	756	756
FTE		3.9	4.7	4.9	5.4	5.9	5.9	5.9	5.9
		Allocations Out							
Labor		0	57	60	69	78	78	78	78
Non-Labor		3	9	5	11	8	8	8	8
NSE		0	0	0	0	0	0	0	0
Total		3	66	65	80	86	86	86	86
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		349	364	364	420	488	488	488	488
Non-Labor		16	125	302	189	115	182	182	182
NSE		0	0	0	0	0	0	0	0
Total		365	489	666	609	603	670	670	670
FTE		3.9	4.7	4.9	5.4	5.9	5.9	5.9	5.9
		Allocations In							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		349	364	364	420	488	488	488	488
Non-Labor		16	125	302	189	115	182	182	182
NSE		0	0	0	0	0	0	0	0
Total		365	489	666	609	603	670	670	670
FTE		3.9	4.7	4.9	5.4	5.9	5.9	5.9	5.9

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Pipeline Design & Gas Standards
 Category-Sub: 1. Pipeline Design & Gas Standards
 Cost Center: 2200-0322.000 - Pipeline Design and Gas Standards

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	23	69	0	92	0.20	23	132	0	155	0.20
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	543	54	0	597	5.70	543	58	0	601	5.70
% Allocation										
Retained	85.72%	85.72%				85.76%	85.76%			
SEU	14.28%	14.28%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	465	46	0	511		465	50	0	515	
SEU	78	8	0	86		78	8	0	86	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	566	123	0	689	5.90	566	190	0	756	5.90
Total Alloc. Out	78	8	0	86		78	8	0	86	
Total Retained	488	115	0	603		488	182	0	670	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	488	115	0	603		488	182	0	670	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	23	132	0	155	0.20	23	132	0	155	0.20
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	543	58	0	601	5.70	543	58	0	601	5.70
% Allocation										
Retained	85.76%	85.76%				85.76%	85.76%			
SEU	14.24%	14.24%				14.24%	14.24%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			
\$ Allocation										
Retained	465	50	0	515		465	50	0	515	
SEU	78	8	0	86		78	8	0	86	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	566	190	0	756	5.90	566	190	0	756	5.90
Total Alloc. Out	78	8	0	86		78	8	0	86	
Total Retained	488	182	0	670		488	182	0	670	
Allocations In	0	0	0	0		0	0	0	0	
Book Expense	488	182	0	670		488	182	0	670	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: D. Pipeline Design & Gas Standards
Category-Sub: 1. Pipeline Design & Gas Standards
Cost Center: 2200-0322.000 - Pipeline Design and Gas Standards

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 243 miles. SDG&E Distribution main is 8338, totaling 8581 miles. SoCal Gas has 3961 miles of Transmission pipe and 47566 miles of distribution main for a total of 51527 miles. $(8581+51527=60,108 \text{ miles. } 8581/60108=.1427597.$
 $51527/60108=.857240, \text{ or } 14.28\% \text{ and } 85.72\%.)$

Cost Center Allocation Percentage for 2010

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2011

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Cost Center Allocation Percentage for 2012

Calculations are based on the ratio of SDG&E Transmission pipe and Distribution main to SoCal Gas Transmission pipe and Distribution main based on the Annual Report filed with the Department of Transportation. SDG&E Transmission pipe totals 242 miles. SDG&E Distribution main is 8317, totaling 8559 miles. SoCal Gas has 3999 miles of Transmission pipe and 47540 miles of distribution main for a total of 51539 miles. $(8559+51539=60,098 \text{ miles. } 8559/60098=.1424.$
 $51539/60098=.8576, \text{ or } 14.24\% \text{ and } 85.76\%.)$

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Pipeline Design & Gas Standards
 Category-Sub: 1. Pipeline Design & Gas Standards
 Cost Center: 2200-0322.000 - Pipeline Design and Gas Standards

Forecast Summary:

		In 2009 \$(000) "Incurred Costs"								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	Base YR Rec	566	566	566	0	0	0	566	566	566
Non-Labor	4-YR Average	190	190	190	0	0	0	190	190	190
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		756	756	756	0	0	0	756	756	756
FTE	Base YR Rec	5.9	5.9	5.9	0.0	0.0	0.0	5.9	5.9	5.9

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	

Southern California Gas Company
Test Year 2012 GRC - REVISED
Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: D. Pipeline Design & Gas Standards
Category-Sub: 1. Pipeline Design & Gas Standards
Cost Center: 2200-0322.000 - Pipeline Design and Gas Standards

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (Nominal \$)*					
Labor	265	343	357	418	480
Non-Labor	17	124	291	197	123
NSE	0	0	0	0	0
Total	283	466	648	615	602
FTE	3.3	4.3	4.3	4.6	5.0
Adjustments (Nominal \$) **					
Labor	0	-15	-15	-14	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	-15	-15	-14	0
FTE	0.0	-0.2	-0.2	-0.2	0.0
Recorded-Adjusted (Nominal \$)					
Labor	265	328	342	404	480
Non-Labor	17	124	291	197	123
NSE	0	0	0	0	0
Total	283	452	633	601	602
FTE	3.3	4.0	4.2	4.5	5.0
Vacation & Sick (Nominal \$)					
Labor	45	59	60	78	87
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	45	59	60	78	87
FTE	0.6	0.7	0.7	0.9	0.9
Escalation to 2009\$					
Labor	39	34	23	7	0
Non-Labor	2	11	16	3	0
NSE	0	0	0	0	0
Total	41	45	39	10	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2009\$)					
Labor	349	421	425	489	567
Non-Labor	19	135	307	200	123
NSE	0	0	0	0	0
Total	369	556	732	689	689
FTE	3.9	4.7	4.9	5.4	5.9

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Pipeline Design & Gas Standards
 Category-Sub: 1. Pipeline Design & Gas Standards
 Cost Center: 2200-0322.000 - Pipeline Design and Gas Standards

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
Labor	0	-15	-15	-14	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	-15	-15	-14	0
FTE	0.0	-0.2	-0.2	-0.2	0.0

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006	-15	0	0	0.0	CCTR Transf	To 2200-2213.000	TP1RMC2009102 7112220480
Transfer Costs from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.							
2006	0	0	0	-0.2	CCTR Transf	To 2200-2213.000	TP1RMC2009102 7112638283
Transfer FTE from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.							
2006 Total	-15	0	0	-0.2			
2007	-15	0	0	0.0	CCTR Transf	To 2200-2213.000	TP1RMC2009102 7112948553
Transfer Costs from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.							
2007	0	0	0	-0.2	CCTR Transf	To 2200-2213.000	TP1RMC2009102 7113023163
Transfer FTE from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.							

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: D. Pipeline Design & Gas Standards
 Category-Sub: 1. Pipeline Design & Gas Standards
 Cost Center: 2200-0322.000 - Pipeline Design and Gas Standards

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2007 Total	-15	0	0	-0.2			
2008	-14	0	0	0.0	CCTR Transf	To 2200-2213.000	TP1RMC2009102 7113120320
							Transfer Costs from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.
2008	0	0	0	-0.2	CCTR Transf	To 2200-2213.000	TP1RMC2009102 7113147053
							Transfer FTE from Pipeline Design Cost Center to SCG Public Awareness Cost Center to more accurately reflect costs of program management within the appropriate cost center.
2008 Total	-14	0	0	-0.2			
2009 Total	0	0	0	0.0			

Southern California Gas Company
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 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: E. USS Billed to CCTR
 Cost Center: 2200-8920.000

Summary for Category: E. USS Billed to CCTR

	In 2009\$ (000) "Book Expense"			
	Adjusted-Recorded	Adjusted-Forecast		
	2009	2010	2011	2012
Labor	85	127	127	127
Non-Labor	1	7	7	7
NSE	0	0	0	0
Total	86	134	134	134
FTE	0.0	0.0	0.0	0.0

Cost Centers belonging to this Category:

2200-8920.000 Billed-in Cost Center for ENGINEERING

Labor	85	127	127	127
Non-Labor	1	7	7	7
NSE	0	0	0	0
Total	86	134	134	134
FTE	0.0	0.0	0.0	0.0

Beginning of Workpaper
2200-8920.000 - Billed-in Cost Center for ENGINEERING

Southern California Gas Company
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Shared Services Workpapers

Area: ENGINEERING
Witness: Stanford, Raymond K
Category: E. USS Billed to CCTR
Category-Sub 1. USS Billed_to_CCTR for Engineering
Cost Center: 2200-8920.000 - Billed-in Cost Center for ENGINEERING

Activity Description:

This cost center was created for GRC to receive the billed-in costs for functional area - ENGINEERING

Forecast Methodology:

N/A

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Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: E. USS Billed to CCTR
 Category-Sub: 1. USS Billed_to_CCTR for Engineering
 Cost Center: 2200-8920.000 - Billed-in Cost Center for ENGINEERING

Summary of Results:

		In 2009\$ (000)							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2005	2006	2007	2008	2009	2010	2011	2012
		Total Incurred (100% Level)							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Allocations Out							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Retained							
Labor		0	0	0	0	0	0	0	0
Non-Labor		0	0	0	0	0	0	0	0
NSE		0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Allocations In							
Labor		114	75	93	82	85	127	127	127
Non-Labor		4	4	3	1	1	7	7	7
NSE		0	0	0	0	0	0	0	0
Total		118	79	96	83	86	134	134	134
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Book Expense							
Labor		114	75	93	82	85	127	127	127
Non-Labor		4	4	3	1	1	7	7	7
NSE		0	0	0	0	0	0	0	0
Total		118	79	96	83	86	134	134	134
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: E. USS Billed to CCTR
 Category-Sub: 1. USS Billed_to_CCTR for Engineering
 Cost Center: 2200-8920.000 - Billed-in Cost Center for ENGINEERING

Calculation of Book Expense:

	2009 Adjusted-Recorded					2010 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	0	0	0	0	0.00	0	0	0	0	0.00
\$ Allocation										
Retained	0	0	0	0		0	0	0	0	
SEU	0	0	0	0		0	0	0	0	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Total Incurred	0	0	0	0	0.00	0	0	0	0	0.00
Total Retained	0	0	0	0		0	0	0	0	
Allocations In	85	1	0	86		127	7	0	134	
Book Expense	85	1	0	86		127	7	0	134	

	2011 Adjusted-Forecast					2012 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
\$ Allocation										
Retained	0	0	0	0		0	0	0	0	
SEU	0	0	0	0		0	0	0	0	
CORP	0	0	0	0		0	0	0	0	
Unreg	0	0	0	0		0	0	0	0	
Allocations In	127	7	0	134		127	7	0	134	
Book Expense	127	7	0	134		127	7	0	134	

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2009
 N/A

Cost Center Allocation Percentage for 2010
 N/A

Cost Center Allocation Percentage for 2011
 N/A

Cost Center Allocation Percentage for 2012
 N/A

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: E. USS Billed to CCTR
 Category-Sub: 1. USS Billed_to_CCTR for Engineering
 Cost Center: 2200-8920.000 - Billed-in Cost Center for ENGINEERING

Forecast Summary:

In 2009 \$(000) "Incurred Costs"									
Forecast Method	Base Forecast			Forecast Adjustments			Adjusted-Forecast		
	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Labor	0	0	0	0	0	0	0	0	0
Non-Labor	0	0	0	0	0	0	0	0	0
NSE	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: E. USS Billed to CCTR
 Category-Sub: 1. USS Billed to CCTR for Engineering
 Cost Center: 2200-8920.000 - Billed-in Cost Center for ENGINEERING

Determination of Adjusted-Recorded (Incurred Costs):

	2005 (\$000)	2006 (\$000)	2007 (\$000)	2008 (\$000)	2009 (\$000)
Recorded (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
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	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
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 2009\$					
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 2009\$)					
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

* After company-wide exclusions of Non-GRC costs

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

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Shared Services Workpapers

Area: ENGINEERING
 Witness: Stanford, Raymond K
 Category: E. USS Billed to CCTR
 Category-Sub: 1. USS Billed_to_CCTR for Engineering
 Cost Center: 2200-8920.000 - Billed-in Cost Center for ENGINEERING

Summary of Adjustments to Recorded:

Year	In Nominal \$ (000) "Incurred Costs"				
	2005	2006	2007	2008	2009
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:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2005 Total	0	0	0	0.0			
2006 Total	0	0	0	0.0			
2007 Total	0	0	0	0.0			
2008 Total	0	0	0	0.0			
2009 Total	0	0	0	0.0			

Southern California Gas Company
 Test Year 2012 GRC - REVISED
 Non-Shared Service Workpapers

Area: GOEN - ENGINEERING
 Witness: Stanford, Raymond K

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-0256	000	SPECIAL PROJECTS MANAGER
2200-0301	000	ENG ANALYSIS CTR MGR
2200-0303	000	CAD
2200-0304	000	MAXIMO
2200-0305	000	CMS/MMM/NBMS
2200-0308	000	CONTRACT/MAINTENANCE
2200-0313	000	GEOGRAPHIC SERVICES
2200-0314	000	GIS SUPERVISOR
2200-0315	000	LAND SERVICES
2200-0316	000	GAS PROCESS ENGINEERING
2200-0317	000	PROJECT & CONSTRUCTION MANAGEMENT
2200-0324	000	OPERATIONS RD&D PROGRAM
2200-1177	000	GIS-NORTH
2200-1179	000	EAC-MATERIAL AND EQUIPMENT
2200-1180	000	EAC-AIR QUALITY AND COMPRESSOR SERVICES
2200-1199	000	ENGINEERING ANALYSIS CENTER ADMINISTRATI
2200-1200	000	EAC-APPLIED TECHNOLOGIES
2200-1335	000	DESIGN DRAFTING
2200-2064	000	MEASUREMENT TECH RD&D
2200-2065	000	MATERIALS/CORROSION RD&D
2200-2066	000	PIPELINE DESIGN RD&D
2200-2067	000	FIELD TECHNOLOGIES RD&D
2200-2203	000	SOCAL GAS PIPELINE INTEGRITY EVALUATIONS
2200-2213	000	SCG PUBLIC AWARENESS
2200-2265	000	NGV & ELECTRICAL FIELD MAINTENANCE
2200-2271	000	CIVIL/STRUCTURAL & HAZARD MITIGATION ENG
2200-2290	000	PIPELINE INTEGRITY MGR-NONSHARED
2200-2292	000	ASSESSMENT PLANNING-NONSHARED
2200-2294	000	PREVENTATIVE & MITIGATION-NONSHARED
2200-2296	000	DIMP & SPECIAL PROJECTS
	001	REFUNDABLE DIMP & SPECIAL PROJECTS-OPEX
2200-2298	000	DATA MGMT & GPS-NONSHARED
2200-2299	000	ILI & METALLURGY-NONSHARED
2200-2300	000	MATERIALS & QUALITY-NONSHARED
2200-2322	000	GOVERNANCE & SERVICE IMPROVEMENT