

Application of San Diego Gas & Electric Company (U902M) for authority to update its gas and electric revenue requirement and base rates effective on January 1, 2012.

A.10-12-005

Application of Southern California Gas Company for authority to update its gas revenue requirement and base rates effective on January 1, 2012. (U904G)

A.10-12-006

Exhibit No.: (SCG-02-CWP-R)

REVISED CAPITAL WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF GINA OROZCO-MEJIA
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

JULY 2011



CAPITAL PROJECT WORKPAPER

PROJECT TITLE New Business (Budget Codes 151 – 161, 165 – 166)	BUDGET NO. 152
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		6,957	8,228	9,839	11,303		36,327
DIRECT NONLABOR		7,139	19,854	24,102	27,923		79,018
TOTAL DIRECT CAPITAL		14,096	28,082	33,941	39,226		115,345
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		14,096	28,082	33,941	39,226		115,345
FTE		100.9	118.8	142.0	163.2		524.9

Business Purpose

This work category provides for changes and additions to the existing gas distribution system to connect new residential, commercial and industrial customers.

Physical Description

The activities of this category include installation of gas mains and services, MSAs and the associated regulator stations necessary to provide service to new customers.

Project Justification

The activities contained in New Business are necessary to provide a safe and reliable gas distribution system. These costs are being incurred in response to SCG obligation to serve the growing customer base.

Forecast Methodology

The base forecast for expenditures was developed using the projected number of new meter sets multiplied by the cost per meter. The cost per meter is reflective of the mix of work that is anticipated. It will account for the use of contractor services, increased installation of main footage and larger diameter pipe to reach new developments, and the proportionate use of plastic and steel materials. To represent these factors, SCG used the 5-year average cost per meter in deriving the forecast for new business installations. See the table below.

Forecast Using Meter Set Quantity								
	Direct Costs (Actuals Inflation Adjusted)			New Sets	Cost Per Set			
	Total	Labor	Non-Labor		Labor	Non-Labor	Total	
2005	46,772,516	13,155,000	33,617,516	81,473	161	413	574	Actual
2006	60,018,331	13,890,000	46,128,331	84,613	164	545	709	Actual
2007	48,733,930	14,181,000	34,552,930	65,286	217	529	746	Actual
2008	23,801,754	10,029,000	13,772,754	45,835	219	300	519	Actual
2009	14,095,902	6,957,000	7,138,902	31,828	219	224	443	Actual
TTLs/Avg	193,422,432	58,212,000	135,210,432	309,035	188	438	626	5 year average
2010	28,494,344	8,575,597	19,918,748	45,526	188	438	626	GRC Forecast
2011	34,734,484	10,453,616	24,280,868	55,496	188	438	626	GRC Forecast
2012	40,557,154	12,205,994	28,351,160	64,799	188	438	626	GRC Forecast

CAPITAL PROJECT WORKPAPER

PROJECT TITLE New Business (Budget Codes 151 – 161, 165 – 166)	BUDGET NO. 152
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

In addition to the forecasted base funding requirement of \$40.6 million for TY2012, the introduction of new information systems technology and associated changes in business processes are anticipated to improve operational efficiency. As a result, reductions were taken from the base forecast funding requirement in the amounts of \$411,000 in 2010, \$794,000 in 2011, and \$1,322,000 in 2012.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>								
	Adjusted Historical					Forecast		
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY
History								
labor	13,155	13,890	14,181	10,029	6,957	8,576	10,454	12,206
nonlabor	33,618	46,128	34,553	13,773	7,139	19,919	24,281	28,351
Total	46,773	60,018	48,734	23,802	14,096	28,494	34,734	40,557
FTEs	187.2	201.2	196.2	152.3	100.9	123.8	150.9	176.2
Opex Benefits								
labor						(347)	(615)	(903)
nonlabor						(64)	(179)	(429)
Total						(411)	(794)	(1,332)
FTEs						(5.0)	(8.9)	(13.0)
Forecast Results								
labor						8,228	9,839	11,303
nonlabor						19,854	24,102	27,923
Total						28,082	33,941	39,226
FTEs						118.8	142.0	163.2

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE New Business Trench Reimbursements (Budget Codes 151 – 161, 165 – 166)	BUDGET NO. 160
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		0	0	0	0		0
DIRECT NONLABOR		1,214	3,313	4,004	4,628		13,159
TOTAL DIRECT CAPITAL		1,214	3,313	4,004	4,628		13,159
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		1,214	3,313	4,004	4,628		13,159
FTE		0	0	0	0		0

Business Purpose

In accordance with CPUC Rules 20 and 21 customers who provide their own trench receive reimbursement for this contribution from SCG.

Physical Description

In conjunction with the installation of gas facilities (mains and services, MSAs and the associated regulator stations) necessary to provide service to the customers, a trench in which the pipeline is placed must be developed. If SGC develops the trench the costs are included in the new business construction costs. If the customer provides the trench SCG reimburses the customer for this cost. This work paper covers only the latter.

Project Justification

The activities contained in New Business Trench Reimbursements are necessary to provide a safe and reliable gas distribution system.

Forecast Methodology

The estimate of expenditures in this category includes reimbursement costs based on the five year average (2005-2009) as a percentage to total new business construction costs. This percentage is 11.8% and, as a result, reimbursement costs were computed using this percentage multiplied by the anticipated new business construction costs for the three forecast years. See table below for details.

Trench reimbursements is historically (5 year average) 12.8% of the new business spend.								
	2005	2006	2007	2008	2009	2010	2011	2012
Trench Reimbursement	5,460	7,093	6,285	2,768	1,214	3,313	4,004	4,628
New Business Constr	46,773	60,018	48,734	23,802	14,096	28,082	33,941	39,226
Ratio Trench/NB Contr	11.7%	11.8%	12.9%	11.6%	8.6%	11.8%	11.8%	11.8%
5 year average					11.8%			

Schedule

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CAPITAL PROJECT WORKPAPER

PROJECT TITLE New Business Forfeitures (Budget Codes 151 – 161, 165 - 166)						BUDGET NO. 161	
WITNESS Gina Orozco-Mejia						IN SERVICE DATE Blanket	
PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		0	0	0	0		0
DIRECT NONLABOR		-5,935	-4,856	-4,856	-4,856		-20,503
TOTAL DIRECT CAPITAL		-5,935	-4,856	-4,856	-4,856		-20,503
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		-5,935	-4,856	-4,856	-4,856		-20,503
FTE		0	0	0	0		0

Business Purpose

New business forfeitures are recorded as reductions to new business expenditures for gas mains and services.

Physical Description

New business forfeitures are customer advances for construction (CAC) that are no longer deemed refundable and are considered utility property in accordance with CPUC Rules 20 – Gas Main Extensions and 21 – Gas Service Extensions.

Project Justification

New business forfeitures reimburse the utility for the cost of unused and/or underutilized facilities constructed at the request of new business customers.

Forecast Methodology

New business forfeitures were forecasted by calculating the five-year average of recorded forfeitures from 2005-2009 and adjusting the calculated average by an overhead factor to arrive at a direct-equivalent forfeiture amount for 2010-2012.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000</i>									
	Adjusted Historical					5 Year	5 Yr Average Forecast		
	2005A	2006A	2007A	2008A	2009A	Average	2010E	2011E	2012TY
History									
labor	-	-	-	-	-	-	-	-	-
nonlabor	(4,859)	(3,882)	(4,797)	(4,807)	(5,935)	(4,856)	(4,856)	(4,856)	(4,856)
Total	(4,859)	(3,882)	(4,797)	(4,807)	(5,935)	(4,856)	(4,856)	(4,856)	(4,856)
FTEs	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Marine Corp Air Ground Combat Center in Twenty-nine Palms (Budget Code 153)	BUDGET NO. 153
WITNESS Gina Orozco-Mejia	IN SERVICE DATE 11/01/2011

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR			0	0	0		0
DIRECT NONLABOR			2,800	10,200	4,800		17,800
TOTAL DIRECT CAPITAL			2,800	10,200	4,800		17,800
COLLECTIBLE			-1,700	-5,000	-4,800		-11,500
NET CAPITAL			1,100	5,200	0		6,300
FTE			0	0	0		0

Business Purpose

SCG provides natural gas service to the U.S. Marine Corp Base in Twenty-nine Palms (just outside Palm Springs). Base Management has notified SCG of expansion plans for its operations; including the addition of two new Cogen units and industrial loads. The Navy has requested new gas supply for these anticipated loads. This project is being completed in response to SCG obligation to serve this growing customer base, and is consistent with CPUC Rule 20 – Line Extension.

Physical Description

The project has two components – new business main installation and pressure betterment. In total, the project consists of design, material procurement, permitting, construction, testing and start up of approximately 10 miles of new 8-inch pipeline, MSA and four high pressure regulator stations located along Del Valle Road within the 29 Palms Marine Base. The new 8-inch pipeline will parallel the existing 6-inch pipeline and feed the new MSA and high pressure regulator stations providing the additional supply needed. The base is located in 29 Palms east of Hwy. 62.

Project Justification

Engineering review of the current and proposed pipeline operating conditions indicated that improvements to the pipeline system would be necessary to meet the customer projected loads. It is not feasible from a service interruption or cost perspective to replace the existing 6-inch steel main. Therefore, approximately 10 miles of new 8-inch pipeline is needed.

Forecast Methodology

Estimated cost is based upon historic pricing for similar size and scope of project. Estimates for material and equipment prices were from recent vendor quotes and historic pricing.

Schedule

Construction is scheduled to begin in the third quarter of 2010 with completion in mid-2012.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Meters and Gauges (Budget Code 163)	BUDGET NO. 163
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		541	704	706	734		2,685
DIRECT NONLABOR		15,837	18,647	18,725	19,464		72,673
TOTAL DIRECT CAPITAL		16,378	19,351	19,431	20,198		75,358
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		16,378	19,351	19,431	20,198		75,358
FTE		7.8	10.2	10.2	10.7		38.8

Business Purpose

Meters are purchased for two primary purposes: new business installations and meter replacements. These purchases and the subsequent installations ensure accurate billing, reliability, and continued safe and reliable service to customers. The expenditures included here are for materials, warehouse handling, technical evaluations, and quality assurance for the purchase of small meters, typical of residence or small business applications, and larger meters, typical of non-residential applications. The associated installation expenses are covered in other applicable work categories (e.g. New Business Capital, Field Service O&M).

Physical Description

Meter types purchased within this budget code include diaphragm, rotary, turbine, and ultrasonic. The forecast includes purchases at the following levels:

Meter Purchases – Units	2009*	2010	2011	2012
New Business Meters	31,828	45,526	55,496	64,799
Meter Replacements	156,981	188,980	187,756	187,756
Totals	188,809	234,506	243,252	252,555

*In 2009, the units purchased were lower due to work down of existing inventory.

Project Justification

Meters are purchased for:

- Installation at new customers' premises.
- Replacements due to meter accuracy, age, or operation.
- Replacements due to a pre-determined replacement cycle based on meter capacity, size, and performance.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Meters and Gauges (Budget Code 163)	BUDGET NO. 163
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

Forecast Methodology

In preparing the forecast for meter purchases, the labor costs were based on the 2009 average labor cost per unit for warehouse handling, technical evaluations, and quality assurance multiplied by the number of forecasted meter units purchased. The methodology used to calculate the required non-labor funding for meter purchases was based on a blended rate of the meter contract prices multiplied by the new business installation and replacement requirements. In an effort to secure meters and regulators for the most reasonable cost, SCG conducted a competitive bidding process for gas metering and regulating equipment. Due to the quantity of equipment purchased for SCG's business needs, a three-year contract was negotiated for the period January 1, 2010 through December 31, 2012.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>								
	Adjusted Historical					Forecast		
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY
History								
labor	530	335	436	527	541	704	706	734
nonlabor	22,725	24,243	22,438	17,125	15,837	18,647	18,725	19,464
Total	23,255	24,578	22,874	17,652	16,378	19,351	19,431	20,198
FTEs	7.9	4.9	6.0	7.9	7.8	10.2	10.2	10.7

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Regulators – Measurement (Budget Code 164)	BUDGET NO. 163
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		24	24	28	30		106
DIRECT NONLABOR		3,462	3,511	4,866	7,017		18,856
TOTAL DIRECT CAPITAL		3,486	3,535	4,894	7,047		18,962
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		3,486	3,535	4,894	7,047		18,962
FTE		0.3	0.3	0.4	0.4		1.3

Business Purpose

Gas regulators are used by SCG to reduce the pressure of gas entering the distribution system from high-pressure pipelines to provide the lower pressures used on the distribution pipeline network and further reduce pressure at the customer’s meter set. As such, they are the principal protective devices to ensure employee and public safety and to protect physical assets in alignment with CPUC/DOT regulations. They also support accurate billing for most customers, where delivery pressure is employed to compute corrected gas volumes delivered to customers. The expenditures included here are for the purchase of new business installation and replacement regulators material and technical evaluations. The associated installation expenses are covered in other applicable work categories (e.g. New Business Capital, Field Service O&M).

Physical Description

Gas regulators are purchased for two primary purposes, new business installations and replacements. The forecast includes purchases at the following levels:

Regulator Purchases – Units	2009	2010	2011	2012
New Regulator Installations	17,045	24,264	29,578	34,536
Regulator Replacements	73,602	73,603	90,936	190,936
Totals	90,647	97,867	120,514	225,472

Project Justification

While new installations are driven by new meter set activities, replacement needs are driven by customer or company identified problems, age, and obsolescence of equipment.

Forecast Methodology

Labor dollars for technical evaluations were calculated based on 2009 average labor cost per unit multiplied by the number of forecasted regulators. In an effort to secure meters and regulators for the most reasonable cost, SCG conducted a competitive bidding process for gas metering and regulating equipment. Due to the quantity of equipment purchased for SCG’s business needs, a three-year contract was negotiated for the period January 1, 2010 through December 31, 2012. The methodology used to calculate the required non-labor funding for regulator purchases was based on a blended rate of the regulator contract prices multiplied by the new business installation and replacement requirements.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Regulators – Measurement (Budget Code 164)	BUDGET NO. 163
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>								
	Adjusted Historical					Forecast		
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY
History								
labor	1	-	4	(1)	24	24	28	30
nonlabor	4,512	4,612	4,417	2,790	3,462	3,511	4,866	7,017
Total	4,513	4,612	4,421	2,789	3,486	3,535	4,894	7,047
FTEs	0.0	0.0	0.0	0.0	0.3	0.3	0.4	0.4

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Electronic Gas Measurement Devices – New Business (Budget Code 180)	BUDGET NO. 180
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		88	89	97	114		388
DIRECT NONLABOR		107	152	157	182		598
TOTAL DIRECT CAPITAL		195	241	254	296		986
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		195	241	254	296		986
FTE		1.1	1.1	1.2	1.4		4.8

Business Purpose

Electronic gas measurement devices (instruments) are used by SCG to facilitate accurate billing and gas volume measurement of each customer meter operating at non-standard metering pressures and temperatures. Costs shown in this account are for the materials purchase, and labor cost for equipment configuration and initial installation.

Physical Description

Costs discussed here are for the materials purchase and labor cost for equipment configuration and initial installation. Historically, approximately 0.2% of all new business customers required pressure correction devices due to design practice favoring metering upstream of service regulators. SCG will change some of its standard design applications in 2011 and beyond to reduce the ratio of electronic correctors it employs (placing metering downstream of gas regulation where practical). Thus, SCG will see a departure from historical ratios, and this total is reflected in the new business instrument purchases for years 2011 and 2012. See the instrument purchase forecast below:

Instrument Purchases	2009	2010	2011	2012
New Business Installations	73	90	95	110

Project Justification

New electronic gas measurement instruments are purchased to support a growing customer infrastructure. In accordance with CPUC General Order 58-A and to ensure accurate accounting and billing, volumetric and pressure recording instruments are used to correct gas measurement for delivery pressures and temperatures for larger, industrial customers that require non-standard delivery pressures and compensation for varying gas temperature effects on measurement.

Forecast Methodology

In preparing this forecast the annual costs were based on the 2005 to 2009 average cost per unit for equipment configuration, initial installation, and materials expense multiplied by the number of units forecasted. While the forecast is based on the unit rates, these instruments can range in cost from \$500 to \$40,000 each, which can result in a wide variation in average cost between years.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Electronic Gas Measurement Devices – New Business (Budget Code 180)	BUDGET NO. 180
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>								
	Adjusted Historical					Forecast		
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY
History								
labor	22	61	32	134	88	89	97	114
nonlabor	1,197	262	151	140	107	152	157	182
Total	1,219	323	183	274	195	241	254	296
FTEs	0.2	0.8	0.4	1.8	1.1	1.1	1.2	1.4

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Electronic Gas Measurement Devices – Replacements (Budget Code 280)	BUDGET NO. 180
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		185	220	190	280		875
DIRECT NONLABOR		22	499	450	1,048		2,019
TOTAL DIRECT CAPITAL		207	719	640	1,328		2,894
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		207	719	640	1,328		2,894
FTE		2.5	3.0	2.3	3.4		11.2

Business Purpose

Electronic gas measurement devices (instruments) are used by SCG to facilitate accurate billing and gas volume measurement of each customer meter operating at non-standard metering pressures and temperatures. Costs shown in this account are for the materials purchase, and labor cost for equipment configuration of new instruments to support replacement activities at existing installations.

Physical Description

Costs shown in this account are for the materials purchase and configuration of new electronic gas measurement devices for existing large non-residential customer meters. These units are used for the replacement of existing technology and devices that become obsolete, or fail due to performance. The installed base for gas measurement devices included in this work category is approximately 7,500 units. Also included in the replacement category are requirements to support the largest customers' metering facilities. These are generally large industrial customers, such as petroleum refineries and Utility Electrical Generation customers. See the instrument purchase forecast below:

Instrument Purchases	2009	2010	2011	2012
Instrument Replacements	74	196	166	171

Project Justification

New electronic gas measurement instruments are routinely replaced due to aging, failed, or damaged devices as well as through planned replacements. These devices have a useful life cycle of five to ten years, at which point hardware fails or becomes obsolete. In accordance with CPUC General Order 58-A and to ensure accurate accounting and billing, volumetric and pressure recording instruments are used to correct gas measurement for delivery pressures and temperatures for larger, industrial customers that require non-standard delivery pressures and compensation for varying gas temperature effects on measurement.

Forecast Methodology

In preparing this forecast the annual costs were based on the 2005 to 2009 average cost per unit for equipment configuration, initial installation, and materials expense multiplied by the number of units

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Electronic Gas Measurement Devices – Replacements (Budget Code 280)	BUDGET NO. 180
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

forecasted. While the forecast is based on the unit rates, these instruments can range in cost from \$500 to \$200,000 each, which can result in a wide variation in average cost between years. This forecast also includes the replacement of flow computers and gas chromatographs at large industrial customers, that are 15 years or older and have reached the end of their useful life. The cost to replace this equipment was estimated by SCG's Engineering department based on the latest manufacturers' data and historical projects of similar scope.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>								
	Adjusted Historical					Forecast		
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY
History								
labor	90	44	66	314	185	220	190	280
nonlabor	343	646	967	770	22	499	450	1,048
Total	433	690	1,033	1,084	207	719	640	1,328
FTEs	1.0	0.5	0.8	4.1	2.5	3.0	2.3	3.4

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Electronic Pressure Monitors (EPMs) – New Installations (Budget Code 181)	BUDGET NO. 180
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		61	180	241	642		1,124
DIRECT NONLABOR		86	724	669	1,328		2,807
TOTAL DIRECT CAPITAL		147	904	910	1,970		3,931
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		147	904	910	1,970		3,931
FTE		0.9	2.5	3.3	9.0		15.7

Business Purpose

Electronic gas pressure monitoring devices (EPMs) are used by SCG to remotely monitor distribution pipeline pressures in support of gas system capacity analysis; and for alarming of over or under-pressure events. Costs discussed here are for the materials purchase and labor cost for equipment configuration and initial installation.

Physical Description

Costs shown in this account are for the materials purchase, and labor for equipment configuration and initial installation of new electronic gas pressure monitoring devices for distribution pipelines. See the device purchase forecast below:

EPM Purchases	2009	2010	2011	2012
New Installations - EPMs	54	181	167	332

Project Justification

The primary purposes of the electric pressure monitor network are system safety and compliance with 49 C.F.R. §192.741 (Pressure limiting and regulating stations: Telemetry or recording gauges). The legacy analog mechanical pressure recording chart equipment used at a majority of SCG’s regulator stations and system terminal points require a technician to drive to the location of the equipment once a month to retrieve the circular paper charts. In addition to this resource intensive process, since these paper chart devices do not transmit the pressure data to a remote operator, real time information is not readily available to help better manage and respond to pipeline overpressure or under pressure events. Also, when failure in mechanical pressure recording chart equipment occurs, such as a recording pen failure which would result in no data being recorded, the problem is not noticed or fixed until the next scheduled chart collection. For these reasons, the industry is replacing the mechanical pressure chart system with EPMs. This industry change has resulted in a declining number of suppliers of mechanical pressure recording chart equipment and the unavailability of replacement parts and supplies.

SCG has remaining in operation approximately 1,700 of these mechanical chart devices. SCG has undertaken a program to systematically replace these mechanical devices. The programmatic replacement of mechanical pressure recording devices will ramp up in the year 2010 and continue through the end of 2015.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Electronic Pressure Monitors (EPMs) – New Installations (Budget Code 181)	BUDGET NO. 180
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

Forecast Methodology

Costs in this work category include equipment configuration and initial installation, based on historical averages for these types of instruments as well as materials, based on the 2009 unit rate. This per unit cost was multiplied by the forecasted number of EPM purchases.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>								
	Adjusted Historical					Forecast		
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY
History								
labor	113	91	228	(6)	61	180	241	642
nonlabor	292	35	315	5	86	724	669	1,328
Total	405	126	543	(1)	147	904	910	1,970
FTEs	1.5	1.2	2.8	(0.1)	0.9	2.5	3.3	9.0

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Electronic Pressure Monitors (EPMs) – Replacements (Budget Code 281)	BUDGET NO. 180
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		0	3	6	11		20
DIRECT NONLABOR		0	44	84	166		294
TOTAL DIRECT CAPITAL		0	47	90	177		314
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		0	47	90	177		314
FTE		0	0.0	0.1	0.1		0.2

Business Purpose

Electronic gas pressure monitoring devices (EPMs) are used by SCG to remotely monitor distribution pipeline pressures in support of gas system capacity analysis; and for alarming of over or under-pressure events. Costs discussed here are for materials purchase and labor cost for warehouse handling and equipment configuration.

Physical Description

Costs shown in this account are for materials purchase and labor for warehouse handling and equipment configuration of new electronic gas pressure monitoring devices for replacement of EPMs. Device failures were calculated based on expected device performance and attrition. See the device purchase forecast below:

EPM Purchases	2009	2010	2011	2012
Failed or Damaged EPM Replacements	0	29	57	111

Project Justification

The primary purposes of the electric pressure monitor network are system safety and compliance with 49 C.F.R. §192.741 (Pressure limiting and regulating stations: Telemetry or recording gauges). As the in-service EPM population grows, SCG will need to replenish the EPM inventory to replace failed or damaged instruments. Failure rates are based upon original population of EPMs installed by SCG which are reaching the end of their anticipated ten-year useful life.

Forecast Methodology

There is little historical spend in this area. Therefore, non-labor dollars were calculated based on the 2009 average cost per new EPM unit multiplied by the number of forecasted purchases to replace failed/damaged EPMs. Labor dollars for warehouse handling and configuration were estimated per unit based on experience with similar instruments currently in use.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Electronic Pressure Monitors (EPMs) – Replacements (Budget Code 281)	BUDGET NO. 180
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>									
	Adjusted Historical					Forecast			
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY	
History									
labor	-	-	-	-	-	3	6	11	
nonlabor	-	-	20	-	-	44	84	166	
Total	-	-	20	-	-	47	90	177	
FTEs	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Pressure Betterment (Budget Code 251)	BUDGET NO. 251
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		516	499	533	525		2,073
DIRECT NONLABOR		10,476	10,437	12,773	12,675		46,361
TOTAL DIRECT CAPITAL		10,992	10,936	13,306	13,200		48,434
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		10,992	10,936	13,306	13,200		48,434
FTE		7.0	6.8	7.3	7.2		28.3

Business Purpose

This work category records expenditures for gas distribution pressure betterment projects performed on an on-going basis to maintain system reliability and service to all customers. Pressure betterment projects are performed in areas where there is insufficient capacity or pressure to meet load growth.

Once a pipeline system is designed and installed, the available capacity remains relatively fixed. However, as load increases over time due to population expansion or increased density as well as larger businesses, the existing pressure decreases which reduces the available capacity for customers. If the diminishing pressure is not addressed, gas service to customers could be interrupted.

Physical Description

Pressure betterment projects typically involve one or more of the following:

- Installing new mains.
- Upsizing existing mains.
- Upgrading existing mains to higher pressure.
- Installing new regulator stations.
- Upsizing existing regulator stations.

Project Justification

To determine which areas need pressure betterments, growth information is gathered from customers, builders, and city, county, and state agencies. In addition, SCG collects data from pressure gauges and electronic pressure recorders. This information is used to model system flow and identify capacity constraints. Based on analysis of these constraints, local region engineering identifies specific pressure betterment projects and the estimated year in which the projects will need to be constructed.

Forecast Methodology

For the year 2010, SCG has identified some of the necessary system requirements and has determined there will be no incremental pressures to the 2009 adjusted recorded expenditures. However, because SCG's gas infrastructure is a large dynamic system of pipelines, with continual changes in customer load, it is difficult to identify and estimate specific betterment projects more than a year into the future. Therefore, for the years 2011 through 2012, estimated expenditures are based on a historical average of recorded expenditures for the years 2005 through 2009. This average captures the yearly variations in system pressure betterment requirements.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Pressure Betterment (Budget Code 251)	BUDGET NO. 251
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

Added to this forecast was a cost increase not reflected in the base forecast related to significant changes to State Water Resources Control Board's General Permit for Storm Water Discharges Associated with Construction Activity, 2009-0008-DWQ (adopted as Order No. 2009-0009-DWQ, effective July 1, 2010). In order to comply with these changes, SCG will need to perform additional monitoring and reporting and will experience increased permit, material, and contractor costs for various construction activities. These changes will be implemented starting July 1, 2010. To approximate the incremental cost increase, SCG looked at a five-year history of pipeline projects and determined the number of projects that had obtained coverage under this permit. The percentage of SCG's pipelines located in Sediment Sensitive Watersheds, which increases the potential risk type for a project, was used to estimate the number of projects that would have more restrictive permit requirements. Based on the five-year average number of projects that would have needed this permit and the percentage of pipe in Sediment Sensitive Watersheds, SCG estimated the incremental cost increase to be \$777,000 for each year 2011 and 2012.

The introduction of new technology and associated changes in business processes are anticipated to improve operational efficiency. Therefore, this forecast of capital expenditures was reduced to incorporate the new operating efficiencies. These efficiencies are estimated to be \$56,000 in 2010, \$128,000 in 2011, and \$234,000 in 2012.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>									
	Adjusted Historical					5 Year Average	2009 Base Forecast	5 Year Average Forecast	
	2005A	2006A	2007A	2008A	2009A		2010E	2011E	2012TY
History									
labor	280	496	704	671	516	533	521	533	533
nonlabor	11,919	17,144	10,355	10,722	10,476	12,123	10,472	12,123	12,123
Total	12,199	17,640	11,059	11,393	10,992	12,657	10,992	12,657	12,657
FTEs	3.8	6.7	9.1	9.9	7.0	7.3	7.1	7.3	7.3
Incremental Additions									
labor								33	33
nonlabor								744	744
Total								777	777
FTEs								0.5	0.5
Opex Benefits									
labor							(21)	(33)	(41)
nonlabor							(35)	(95)	(193)
Total							(56)	(128)	(234)
FTEs							(0.3)	(0.5)	(0.6)
Forecast Results									
labor							499	533	525
nonlabor							10,437	12,773	12,675
Total							10,936	13,306	13,200
FTEs							6.8	7.3	7.2

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Pressure Betterment (Budget Code 251)	BUDGET NO. 251
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Distribution Main Replacement (Budget Codes 252, 253, 255)	BUDGET NO. 253
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		5,282	3,991	3,915	3,853		17,041
DIRECT NONLABOR		30,414	28,072	27,958	27,745		114,189
TOTAL DIRECT CAPITAL		35,696	32,063	31,873	31,598		131,230
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		35,696	32,063	31,873	31,598		131,230
FTE		75.5	57.4	56.3	55.4		244.6

Business Purpose

SCG's distribution pipeline system consists of approximately 48,800 miles of steel and plastic main supporting the delivery of gas to more than 5.5 million customers. Expenditures recorded to this work category are for routine capital pipeline replacements critical to sustained operational reliability and public safety.

Physical Description

Pipeline replacement projects include:

- The installation of new mains to replace existing mains.
- Service line replacements associated with main replacements.
- Existing service line "tie-overs" to newly installed replacement main.
- Meter set re-builds associated with newly installed replacement main.
- Main replacements completed in advance of public infrastructure improvement projects.

Project Justification

Pipeline replacements are often due to leakage that impacts the integrity of the pipe, an anticipated increase in leakage maintenance expenses, the relative cost to install and/or maintain cathodic protection, or the deterioration of pipe material, pipe wrap, or coating. Based on information collected during various O&M activities and field observations, technical staff determines and prioritizes the pipeline segments requiring replacement. These replacements are critical to sustained operational reliability and public safety.

Forecast Methodology

Since the level of spending in this routine replacement category is highly dependent on the condition of the pipe as observed during maintenance activities, SCG assumed that a five-year average (2005 to 2009) would best represent the anticipated spending levels into the TY2012.

The introduction of new technology and associated changes in business processes are anticipated to improve operational efficiency. Therefore, this forecast of capital expenditures was reduced to incorporate these new operating efficiencies. This forecast includes efficiencies of \$263,000, \$453,000, and \$728,000 in 2010, 2011, and 2012, respectively.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Distribution Main Replacement (Budget Codes 252, 253, 255)	BUDGET NO. 253
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>									
	Adjusted Historical					5 Year Average	5 Year Average Forecast		
	2005A	2006A	2007A	2008A	2009A		2010E	2011E	2012TY
History									
labor	2,765	3,470	4,769	4,507	5,282	4,159	4,159	4,159	4,159
nonlabor	21,929	25,652	33,951	28,888	30,414	28,167	28,167	28,167	28,167
Total	24,694	29,122	38,720	33,395	35,696	32,325	32,325	32,325	32,325
FTEs	39.8	50.9	65.1	67.4	75.5	59.8	59.8	59.8	59.8
Opex Benefits									
labor							(168)	(244)	(306)
nonlabor							(95)	(209)	(422)
Total							(263)	(453)	(728)
FTEs							(2.4)	(3.5)	(4.4)
Forecast Results									
labor							3,991	3,915	3,853
nonlabor							28,072	27,958	27,745
Total							32,063	31,873	31,598
FTEs							57.4	56.3	55.4

Schedule

This is a routine budget category consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Main and Service Abandonment (Budget Codes 254, 259)	BUDGET NO. 254
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		1,336	1,827	1,827	1,827		6,817
DIRECT NONLABOR		1,522	2,195	2,195	2,195		8,107
TOTAL DIRECT CAPITAL		2,858	4,022	4,022	4,022		14,924
COLLECTIBLE							
NET CAPITAL		2,858	4,022	4,022	4,022		14,924
FTE		19.0	26.3	26.3	26.3		97.9

Business Purpose

This work category includes expenditures associated with the abandonment of distribution pipeline mains and services without the installation of a replacement pipeline.

Physical Description

Abandonment of mains and services occur primarily when the pipeline is no longer needed for current system operations and it is not expected to be needed in the future. Abandonments of mains occur primarily to render the pipeline inactive due to its condition or location. Abandonments of service lines occur due to removal of MSAs, cancellation of gas service due to building demolitions, or when temporary service is terminated.

Project Justification

The activities contained in Main & Service Abandonments are necessary to provide a safe and reliable gas distribution system. The main abandonments are driven by state and city requests and the service abandonments are driven by customer requests.

Forecast Methodology

The forecasted expenditures were determined by using a historical five year (2005 - 2009) average of abandonments. This methodology was chosen due to the unscheduled and unpredictable nature of this work.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>									
	Adjusted Historical					5 Year Average	5 Year Average Forecast		
	2005A	2006A	2007A	2008A	2009A		2010E	2011E	2012TY
History									
labor	1,951	2,132	2,131	1,586	1,336	1,827	1,827	1,827	1,827
nonlabor	2,105	2,101	3,164	2,081	1,522	2,195	2,195	2,195	2,195
Total	4,056	4,233	5,295	3,667	2,858	4,022	4,022	4,022	4,022
FTEs	28.0	31.3	29.4	23.6	19.0	26.3	26.3	26.3	26.3

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Distribution Service Replacement – (Budget Codes 256, 257, 258, 260)	BUDGET NO. 258
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		5,003	4,190	4,110	4,046		17,349
DIRECT NONLABOR		6,997	7,449	7,419	7,362		29,227
TOTAL DIRECT CAPITAL		12,000	11,639	11,529	11,408		46,576
COLLECTIBLE		0	0	0	0		
NET CAPITAL		12,000	11,639	11,529	11,408		46,576
FTE		70.5	59.1	58.0	57.1		244.7

Business Purpose

Service replacements represented in this category include expenditures specific to the replacement of isolated distribution service pipelines to maintain system reliability and ensure customer safety by addressing aging infrastructure.

Physical Description

Services are replaced by two methods of construction, direct burial and “insertion”. Direct bury technique is similar to routine pipeline construction where in a trench is dug and service pipe is placed within the trench. With the insertion method, a new plastic replacement service is inserted into the existing old steel service pipe.

Project Justification

SCG has approximately 48,600 miles of service pipe. This figure consists of 18,600 miles of steel, and 30,100 miles of plastic service lines. Forty-six percent of steel services are protected by cathodic protection. Most service replacement projects are driven by leakage, and most service leaks are found on steel services that are not under cathodic protection.

Forecast Methodology

A review of the five year historical data (2005 to 2009) shows this category of spend has remained fairly constant over time. Based on this level of stable spending on routine service replacement, SCG is projecting the TY2012 forecast based on a five year average spend.

The introduction of new technology and associated changes in business processes are anticipated to improve operational efficiency. Therefore, this forecast of capital expenditures was reduced to incorporate the new operating efficiencies. These efficiencies are estimated to be \$202,000 in 2010, \$312,000 in 2011, and \$433,000 in 2012.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Distribution Service Replacement – (Budget Codes 256, 257, 258, 260)	BUDGET NO. 258
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>									
	Adjusted Historical					5 Year Average	5 Year Average Forecast		
	2005A	2006A	2007A	2008A	2009A		2010E	2011E	2012TY
History									
labor	4,277	3,998	4,307	4,247	5,003	4,366	4,366	4,366	4,366
nonlabor	7,678	8,003	8,427	6,267	6,997	7,474	7,474	7,474	7,474
Total	11,955	12,001	12,734	10,514	12,000	11,841	11,841	11,841	11,841
FTEs	60.3	57.3	58.0	62.2	70.5	61.7	61.6	61.6	61.6
Opex Benefits									
labor							(177)	(256)	(321)
nonlabor							(25)	(55)	(112)
Total							(202)	(312)	(433)
FTEs							(2.5)	(3.6)	(4.5)
Forecast Results									
labor							4,190	4,110	4,046
nonlabor							7,449	7,419	7,362
Total							11,639	11,529	11,408
FTEs							59.1	58.0	57.1

Schedule

This is a routine budget category consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Pipeline Relocations – Freeway (Budget Codes 261, 268)	BUDGET NO. 261(NC), 268 (Coll)
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		115	111	109	107		442
DIRECT NONLABOR		2,104	2,096	2,087	2,072		8,359
TOTAL DIRECT CAPITAL		2,219	2,207	2,196	2,179		8,801
COLLECTIBLE		-0	-44	-44	-43		-131
NET CAPITAL		2,219	2,163	2,152	2,136		8,670
FTE		1.5	1.4	1.4	1.3		5.6

Business Purpose

Freeway work in SCG is driven by external agencies, such as the California Department of Transportation. These agencies submit requests for SCG to relocate pipe that would, in its current location, interfere with planned construction or reconstruction of freeways. The work in this category includes expenditures associated with relocating or altering SCG facilities in response to these external requests, as specified under the provisions of SCG franchise agreements with city, county or state agencies.

Physical Description

Gas facility projects and work initiated to accommodate these freeway enhancements include all sizes of distribution pipeline work, supply line alterations, service alterations, and meter set assembly alterations performed because existing SCG facilities interfere with freeway construction.

Project Justification

The exact timing and number of freeway pipeline projects is driven by outside agencies, so expenditures in this category are dependent on the number, extent and timing of these requests and largely outside of SCG's control. However, when projects do occur, SCG must complete its portion of the work while minimizing schedule delays for the agency.

Forecast Methodology

In 2009, SCG saw an increase over previous years in the total cost and number of pipeline projects in this category. The availability of federal stimulus funding is anticipated to influence SCG pipeline construction activities in this area. For this reason, a historical average would not provide enough funding to complete the freeway projects required by the Department of Transportation, cities, counties, and the state. SCG expects future levels of expenditures to be closer to, or even exceed, the 2009 adjusted recorded base level.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Pipeline Relocations – Freeway (Budget Codes 261, 268)	BUDGET NO. 261(NC), 268 (Coll)
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

Based on known freeway projects communicated to SCG by local jurisdictions, SCG has currently identified 48 pipelines that are in conflict with these freeway projects which need to be relocated before freeway construction can be completed. These pipeline projects range from \$1,000 to \$800,000 and total approximately \$8.9 million, which substantiates SCG's expectations for 2010. This list includes the freeway projects listed below:

Project Title	City	Approximate Cost (\$000 in 2009\$)
Hwy 46 at Lost Hills - Reg Station and Medium Pressure Pipe Relocation	Lost Hills	\$ 500
Hwy 46 at Lost Hills - High Pressure Pipe Relocation	Lost Hills	\$ 190
101 Freeway at Rice - SL 36-1006	Oxnard	\$ 278
101 Freeway at Springville Rd. - SL 36-6537	Camarillo	\$ 575
Newhall Ranch Utility Corridor	Santa Clarita	\$ 406
Newhall Ranch and Henry Mayo Commerce Center	Santa Clarita	\$ 300
6th Ave.	Hanford	\$ 57
Hwy 198 and Road 68	Hanford	\$ 15
5 Freeway Widening at Freeway Dr. - SL 42-12-D	Santa Fe Springs	\$ 174
5 Freeway Widening at Firestone and Carmenita	Santa Fe Springs	\$ 121
Seal Beach Bridge Widening	Seal Beach	\$ 800
5 Freeway at Carmenita - Freeway Dr. and Radius	Santa Fe Springs	\$ 174
Artesia Blvd. to Valley View - Phase I	La Mirada	\$ 34
Artesia Blvd. to Valley View - Phase II	La Mirada	\$ 22
Artesia Blvd. to Valley View - Phase III	La Mirada	\$ 160
Artesia Blvd. to Valley View - Phase IV	La Mirada	\$ 14
Carmenita at Molette	Santa Fe Springs	\$ 87
SR-22 Widening Slurry Seal	Seal Beach	\$ 5
Marquardt Ave., North of Freeway Dr.	Santa Fe Springs	\$ 56
Seal Beach Naval Weapons Station	Seal Beach	\$ 23
Carmenita	Santa Fe Springs	\$ 36
5 Freeway Overpass Widening - Camino De Estrella	San Clemente	\$ 6
405 Freeway Widening Between 10 Freeway and 101 Freeway - Sepulveda Blvd., Montana to Bronwood	Los Angeles	\$ 600
405 Freeway Widening Between 10 Freeway and 101 Freeway - Wilshire Blvd.	Los Angeles	\$ 5
405 Freeway Widening Between 10 Freeway and 101 Freeway - Sepulveda Blvd., Sepulveda Way to Sunset Blvd.	Los Angeles	\$ 360
405 Freeway Widening Between 10 Freeway and 101 Freeway - Church Ln.	Los Angeles	\$ 800
405 Freeway Widening Between 10 Freeway and 101 Freeway - Thurston Circle	Los Angeles	\$ 150
405 Freeway Widening - Mulholland Bridge	Los Angeles	\$ 100
10 Freeway and Puente Ave.	Baldwin Park	\$ 1
Dalewood St.	Claremont	\$ 5
Cal Trans Garvey and Westcott Ave.	Baldwin Park	\$ 18
10 Freeway at Cherry Ave.	Fontana	\$ 5
10 Freeway at Citrus Ave.	Fontana	\$ 5

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Pipeline Relocations – Freeway (Budget Codes 261, 268)	BUDGET NO. 261(NC), 268 (Coll)
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

91 Freeway at Ivy Street Bridge	Riverside	\$	5
91 Freeway at Frontage Rd.	Riverside	\$	75
91 Freeway at 14th St.	Riverside	\$	25
91 Freeway at 10th St. and 11th St.	Riverside	\$	10
91 Freeway at Vine St.	Riverside	\$	15
15 Freeway at Temescal Canyon Rd and Indian Truck Trail	Corona	\$	500
215 Freeway at Van Buren Blvd.	Moreno Valley	\$	500
16th St and H St.	San Bernardino	\$	5
215 Freeway at 2nd St.	San Bernardino	\$	15
10 Freeway at Indian Ave.	Palm Springs	\$	150
215 Freeway at Los Alamos	Murrieta	\$	400
215 Freeway at Scott Rd.	Murrieta	\$	200
215 Freeway and 10 Freeway Interchange	Colton	\$	110
91 Freeway between the 241 Toll Road and Pierce St.	Corona	\$	600
215 Freeway and 210 Freeway Interchange	San Bernardino	\$	250

As the economic conditions improve and the demand on the infrastructure continues to grow, SCG anticipates more projects added to the inventory of work to be completed within this category. For the years 2010 through 2012, SCG is requesting a base funding level equal to the 2009 adjusted recorded base.

The introduction of new technology and associated changes in business processes are anticipated to improve operational efficiency. Therefore, this forecast of capital expenditures was reduced to incorporate the new operating efficiencies. These efficiencies are estimated to be \$12,000 in 2010, \$22,000 in 2011, and \$40,000 in 2012.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Pipeline Relocations – Freeway (Budget Codes 261, 268)	BUDGET NO. 261(NC), 268 (Coll)
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>								
	Adjusted Historical					2009 Adjusted Base Forecast		
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY
History								
labor	53	37	35	14	115	115	115	115
nonlabor	777	1,937	977	774	2,104	2,104	2,103	2,104
Total	830	1,974	1,012	788	2,219	2,219	2,219	2,219
FTEs	0.6	0.5	0.4	0.2	1.5	1.5	1.5	1.5
Opex Benefits								
labor						(5)	(7)	(8)
nonlabor						(7)	(16)	(32)
Total						(12)	(22)	(40)
FTEs						(0.1)	(0.1)	(0.1)
Forecast Results								
labor						111	109	107
nonlabor						2,096	2,087	2,072
Total						2,207	2,196	2,179
FTEs						1.4	1.4	1.3
Direct Cash Credits*	-	(133)	-	-	-			
Ratio Cash to Total Direct Cost **	0%	-7%	0%	0%	0%	-2%	-2%	-2%
Collectible Capital	-	(133)	-	-	-	(44)	(44)	(43)
Net Capital	830	1,841	1,012	788	2,219	2,163	2,152	2,136
FTEs	0.6	0.5	0.4	0.2	1.5	1.4	1.4	1.3
* Direct Cash Credits not included in GRID data, but shown here to calculate the collectible portion of capital								
** 2010 - 2012 ratio is the 2005 - 2009 average ratio								

For the collectible amount computation, a five year average of cash collected divided by total construction dollars spent yielded a 2% factor. This factor was applied to the total forecasted construction dollars for years 2010 through 2012 to derive the collectible portion amounts.

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Cathodic Protection (Budget Codes 173, 263, 273)	BUDGET NO. 263
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		286	318	329	339		1,272
DIRECT NONLABOR		3,661	3,874	3,999	4,125		15,659
TOTAL DIRECT CAPITAL		3,947	4,192	4,328	4,464		16,931
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		3,947	4,192	4,328	4,464		16,931
FTE		3.8	4.4	4.6	4.7		17.5

Business Purpose

This work category includes expenditures associated with new installation and replacement of cathodic protection (CP) systems and equipment.

Physical Description

Within the area of CP, work is performed to complete the installation of new impressed current stations, deep well anode beds, and magnesium anode systems on new and/or existing pipelines. Anode beds that have reached their life expectancy will be replaced to prevent losing CP on related systems.

Project Justification

The activities contained in this work category are necessary to alleviate corrosion and thus maintain a safe and reliable distribution system and help to extend the life of the asset.

Forecast Methodology

Forecast expenditures for this compliance activity are based on the five year trend of spending from 2005 to 2009. This methodology was chosen to best capture the expected continued increase in contractor expenses and the replacement requirements on an aging infrastructure.

- SCG has experienced a 17% real increase in contractor costs for deep well drilling over the period 2005 to 2009. The average cost per well drilled in 2005 (adjusted for standard inflation) was \$31,700. In 2009 the average cost per well has risen to \$37,100. This trend is expected to continue as the demand for services on deep well drillers increases based on a limited number of service providers.
- The life expectancy of the anode beds is approximately 20 to 25 years. Many of these beds were installed beginning in the 1970's, therefore with this aging infrastructure SCG can anticipate having to complete more replacements as the materials effectiveness declines.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Cathodic Protection (Budget Codes 173, 263, 273)	BUDGET NO. 263
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>									
	Adjusted Historical					5 Year Trend Forecast			
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY	
History									
labor	183	289	343	336	286	318	329	339	
nonlabor	3,151	3,416	3,740	3,507	3,661	3,874	3,999	4,125	
Total	3,334	3,705	4,083	3,843	3,947	4,192	4,328	4,464	
FTEs	2.7	4.3	4.6	4.6	3.8	4.4	4.6	4.7	

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Distribution Meter Guards (Budget Code 264)	BUDGET NO. 264
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		753	821	915	1,009		3,498
DIRECT NONLABOR		139	163	182	201		685
TOTAL DIRECT CAPITAL		892	984	1,097	1,210		4,183
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		892	984	1,097	1,210		4,183
FTE		11.0	12.2	13.6	14.9		51.7

Business Purpose

Meter guards (barricades) are installed to protect the MSA at existing customer locations from vehicular traffic in accordance with CPUC General Order 112-E and 49 C.F.R. 192.353(a). The meter guards are installed at targeted sites where MSA location and/or design warrants consideration of traffic patterns and exposure to other potential sources of impact damage.

Physical Description

Meter guards consist of pipeline compatible materials with sufficient structural integrity to guard against damage to Meter Set Assemblies. Posts installed into the ground with welded cross braces, usually made of steel pipe, are fabricated / installed by SCG field crews and contractors.

Project Justification

Meter guard installations continue to ensure public safety and operations in a growing service territory.

Forecast Methodology

SCG's spending on this activity over the last five years (2005 to 2009) has been increasing at roughly 19% per year. Given the anticipated continued growth within the service territory, the Company anticipates this upward trend in spending will continue. The forecast for this capital category is therefore based on a five year trend of the historical data.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>								
	Adjusted Historical					5 Year Trend Forecast		
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY
History								
labor	392	411	509	632	753	821	915	1,009
nonlabor	57	74	172	94	139	163	182	201
Total	449	485	681	726	892	984	1,097	1,210
FTEs	5.8	6.2	7.2	9.8	11.0	12.2	13.6	14.9

Schedule

This is a routine budget category consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Distribution Regulator Stations (Budget Code 265)	BUDGET NO. 265
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		376	378	431	442		1,627
DIRECT NONLABOR		3,488	5,941	6,755	6,982		23,166
TOTAL DIRECT CAPITAL		3,864	6,319	7,186	7,424		24,793
COLLECTIBLE		0	0	0	0		
NET CAPITAL		3,864	6,319	7,186	7,424		24,793
FTE		4.8	4.9	5.6	5.8		21.1

Business Purpose

Represented in this work category are expenditures for the upgrade, relocation and replacement of regulator stations.

Physical Description

Regulator Stations are key pieces of control equipment on the SCG pipeline network. They are installed to reduce the pressure of gas entering the distribution system from high-pressure pipelines to provide the lower pressures used on the distribution pipeline network, which ensures continued reliable operating conditions to the customer. These stations, consisting of valves and regulators, are in many cases installed in below-ground vaults. These facilities reduce and control the pressure of the gas entering the distribution system from higher-pressure pipelines.

Project Justification

Annual inspections are used to record the condition of each station. These evaluation elements are used to identify station replacement projects. Stations identified for replacement may contain the following characteristics: single vault design, obsolete design, two vault stations, or replacement due to system reinforcement or growth.

Forecast Methodology

SCG is addressing this aging infrastructure by targeting those stations that have known maintenance, reliability, or design obsolescence, before operations and safety issues arise. Historically, SCG has addressed between 11 and 24 stations in any one year. In projecting the 2010, 2011 and 2012 expenditures, SCG is proposing to address 21, 24, and 25 units, respectively. These station replacements will be prioritized based on various risk factors, such as ergonomically hazardous condition or location, obsolete design or equipment, deteriorating vaults or equipment, and capacity issues. Costs for completing this work were estimated based on the five-year (2005 - 2009) average cost per station project. This average project cost was applied to the anticipated number of station replacements to be completed.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Distribution Regulator Stations (Budget Code 265)	BUDGET NO. 265
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The introduction of new technology and associated changes in business processes are anticipated to improve operational efficiency. Therefore, this forecast of capital expenditures was reduced to incorporate the new operating efficiencies. These efficiencies are estimated to be \$36,000 in 2010, \$77,000 in 2011, and \$141,000 in 2012.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>									
	Adjusted Historical					5 Year Average	Ave Cost per Unit Forecast		
	2005A	2006A	2007A	2008A	2009A		2010E	2011E	2012TY
History									
labor	98	322	179	452	376	285			
nonlabor	4,061	5,335	4,347	3,875	3,488	4,221			
Total	4,159	5,657	4,526	4,327	3,864	4,507			
FTEs	1.3	4.1	2.3	6.3	4.8	3.8			
Units	11	15	20	24	11		21	24	25
Cost per Unit	378.09	377.13	226.30	180.29	351.27	302.62	302.62	302.62	302.62
Forecast based on average cost per unit * forecast units									
labor							394	458	477
nonlabor							5,961	6,805	7,089
Total							6,355	7,263	7,565
FTEs							5.2	6.0	6.2
Opex Benefits									
labor							(16)	(27)	(35)
nonlabor							(20)	(50)	(106)
Total							(36)	(77)	(141)
FTEs							(0.2)	(0.4)	(0.5)
Forecast Results									
labor							378	431	442
nonlabor							5,941	6,755	6,982
Total							6,319	7,186	7,424
FTEs							4.9	5.6	5.8

Schedule

This is a routine budget category consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Supply Line Replacements (Budget Code 267)	BUDGET NO. 267
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		26	61	59	58		204
DIRECT NONLABOR		1,927	3,119	3,105	3,081		11,232
TOTAL DIRECT CAPITAL		1,953	3,180	3,164	3,139		11,436
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		1,953	3,180	3,164	3,139		11,436
FTE		0.3	0.7	0.7	0.7		2.4

Business Purpose

This work category includes expenditures to replace high-pressure distribution pipelines, known at SCG as supply lines. Some of the major drivers for these supply line replacement projects include deteriorating pipe conditions, risk to the public, and increased maintenance costs.

Physical Description

The distribution supply line system is comprised of approximately 3,400 miles of high-pressure pipeline constructed between the early 1920s and the present, and ranges in diameter from 2-inch to 30-inch. These supply lines normally operate at pressures higher than 60 psig. Projects in this workgroup include replacements of pipe within this supply line system with new high-pressure pipe.

Project Justification

The condition of SCG's supply line system is typically assessed through O&M activities (i.e. excavations, leakage survey, and damage repairs). When deteriorating conditions are found to exist on any supply line, an engineering evaluation of the pipeline is conducted to determine requirement for replacement or abandonment. Supply line replacement decisions are based on several factors, including pipe condition, leakage history, operating history, construction methods, system demands, proximity to known potential geologic hazards, and consequence of potential failure.

Forecast Methodology

SCG currently has identified eight projects totaling approximately \$13.4 million to replace deteriorating supply lines over this rate case cycle. This list includes the supply lines listed below:

Project Title	City	Approximate Cost (\$000 in 2009\$)
SL 41-17 - Replacement Due to Wash Out in Potrero Creek	San Jacinto	\$ 2,500
SL 30-23 - Replacement Due to Leakage	Santa Fe Springs	\$ 150
SL 1008 - Replacement of Exposed Main Across Salinas River	Atascadero	\$ 500
SL 1032M - Replacement Due to Proximity to Widening River	Lompoc	\$ 1,000
SL 32-116 (Phase 3) - Replace Shallow 1926 Pipe	Tehachapi	\$ 2,800
SL 32-116 (Phase 2) - Replace Shallow 1926 Pipe	Tehachapi	\$ 5,750
SL 36-1002 - Bore Under Creek	Santa Barbara	\$ 500
SL 31-23-D - Convert to Lower Pressure	Anaheim	\$ 180

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Supply Line Replacements (Budget Code 267)	BUDGET NO. 267
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

While potential work has been identified, the timing of these replacements is still dependent on a timely review of operating conditions, detailed planning requirements, acquiring the required permits, and coordination of scheduling. Therefore specific project timelines are difficult to predict. For this reason, SCG is estimating expenditures for the years 2010 through 2012 based on a historical average of recorded expenditures for the years 2005 through 2009. This average is most representative of future work requirements and expected expenditures, as it captures typical fluctuations in supply line project costs from year to year.

The introduction of new technology and associated changes in business processes are anticipated to improve operational efficiency. Therefore, this forecast of capital expenditures was reduced to incorporate the new operating efficiencies. These efficiencies are estimated to be \$13,000 in 2010 and \$29,000 in 2011, and \$53,000 in 2012.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>									
	Adjusted Historical					5 Year Average	5 Year Average Forecast		
	2005A	2006A	2007A	2008A	2009A		2010E	2011E	2012TY
History									
labor	103	92	50	45	26	63	63	63	63
nonlabor	3,919	5,234	3,783	784	1,927	3,129	3,129	3,129	3,129
Total	4,022	5,326	3,833	829	1,953	3,193	3,193	3,193	3,193
FTEs	1.3	1.1	0.6	0.6	0.3	0.8	0.8	0.8	0.8
Opex Benefits									
labor							(3)	(4)	(5)
nonlabor							(11)	(25)	(48)
Total							(13)	(29)	(53)
FTEs							(0.0)	(0.0)	(0.1)
Forecast Results									
labor							61	59	58
nonlabor							3,119	3,105	3,081
Total							3,180	3,164	3,139
FTEs							0.7	0.7	0.7

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Other Distribution Projects (Budget Codes 270, 274, 275, 901)	BUDGET NO. 270(Coll), 275(NC)
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		482	415	415	415		1,727
DIRECT NONLABOR		2,287	3,033	3,033	3,033		11,386
TOTAL DIRECT CAPITAL		2,769	3,448	3,448	3,448		13,113
COLLECTIBLE		-1,465	-1,862	-1,862	-1,862		-7,051
NET CAPITAL		1,304	1,586	1,586	1,586		6,062
FTE		6.1	5.6	5.6	5.6		22.9

Business Purpose

This work category covers the expenditures for capital adjustments to SCG facilities not specifically included in the other categories of work.

Physical Description

Examples of these “other” projects include, but are not limited to:

- Replacement or alteration and abandonment of appurtenance to mains such as valves, vaults, drips, traps, roads, fences, etc. due to condition to ensure the reliable operation of the distribution system.
- Raising, lowering or relocating main due to interference with other company pipeline facilities.
- Conversion of high pressure main to medium pressure for improved asset utilization.
- Changes to Company facilities at customer request. This could include items such as alteration or relocation of main or MSAs; installation of customer exclusively used mains, or moving or relocating regulator stations.

Project Justification

The activities contained in Other Distribution Projects are necessary to provide a safe and reliable gas distribution system. This activity is generally unpredictable due to its nature. The vast majority of the costs are driven by property owners requesting SCG to move its facilities from their property. As such, these costs are collected from customers prior to work commencing.

Forecast Methodology

The forecast of funding for Other Distribution Projects expenditures was based on the **five year average** of spending from 2005 to 2009. Over the five year period spending in 2006 was the highest at \$4.4 million. In the most recent year (2009) costs have declined to only \$2.8 million. This decline is consistent with the decline in general economic conditions. To capture the annual variability of spending, and to reflect the anticipated improvement in economic conditions (per Global Insights forecasts) a five year average is justifiable.

For the collectible amount computation, a five year average of cash collected associated with direct costs divided by total construction dollars spent yielded a 54% factor. This factor was applied to the total forecasted construction dollars for years 2010 – 2012 to derive the collectible portion amounts.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Other Distribution Projects (Budget Codes 270, 274, 275, 901)	BUDGET NO. 270(Coll), 275(NC)
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

All years stated in DIRECT \$000 2009 Dollars and Includes V&S									
	Adjusted Historical					5 Year Average	5 Year Average Forecast		
	2005A	2006A	2007A	2008A	2009A		2010E	2011E	2012TY
History									
labor	123	444	473	556	482	415	415	415	415
nonlabor	1,991	3,945	3,699	3,240	2,287	3,033	3,033	3,033	3,033
Total	2,114	4,389	4,172	3,796	2,769	3,448	3,448	3,448	3,448
FTEs	1.6	6.3	6.2	7.9	6.1	5.6	5.6	5.6	5.6
Direct Cash									
Credits*	(414)	(1,172)	(3,230)	(2,944)	(1,465)	(1,845)			
Ratio Cash to									
Total Direct Cost	-20%	-27%	-77%	-78%	-53%	-54%	-54%	-54%	-54%
Collectible Capital	(414)	(1,172)	(3,230)	(2,944)	(1,465)	(1,862)	(1,862)	(1,862)	(1,862)
Net Capital	1,700	3,217	942	852	1,304	1,586	1,586	1,586	1,586
FTEs	1.6	6.3	6.2	7.9	6.1	5.6	5.6	5.6	5.6
* Direct Cash Credits not included in GRID data, but shown here to calculate the collectible portion of capital									

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Pipeline Relocations – Franchise (Budget Codes 262, 269, 271, 272)	BUDGET NO. 271(NC), 272(Coll)
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		924	616	622	629		2,791
DIRECT NONLABOR		7,963	8,644	8,855	9,031		34,493
TOTAL DIRECT CAPITAL		8,887	9,260	9,477	9,660		37,284
COLLECTIBLE		-847	-648	-664	-676		-2,835
NET CAPITAL		8,040	8,612	8,813	8,984		34,449
FTE		12.6	8.5	8.6	8.7		38.4

Business Purpose

Franchise work in SCG is driven by external agencies, such as the cities, counties, or state. These agencies submit requests for SCG to relocate pipe that would, in its current location, interfere with the construction or reconstruction of streets or railway systems. Some examples of the of the type of municipality work that drives SCG franchise pipe relocations include street widening, resurfacing, or repairs, stormdrain work, and municipality water and sewer work. The work in this category includes expenditures associated with relocating or altering SCG facilities in response to these external requests, as specified under the provisions of SCG franchise agreements with city, county, or state agencies.

Physical Description

Franchise relocation projects in this workgroup include all sizes of distribution pipeline work, supply line alterations, service alterations, and meter set assembly alterations performed because existing SCG facilities interfere with municipality work.

Project Justification

It is difficult to predict an accurate timeline for when franchise projects will be executed since SCG does not have control over the construction schedule. However, when projects do occur, SCG must complete its portion of the work while minimizing schedule delays for the municipality or agency.

SCG expects to see an increased number of requests from municipalities for pipe relocations and alterations in future years. Some of the factors that are expected to increase the amount of municipality work include the following:

- Improving economic conditions.
- Availability of funding to municipalities.
- Population growth and density.
- Age of infrastructure.

Forecast Methodology

Based on the drivers listed above, SCG expects franchise related spending to increase in future years. Therefore, SCG is requesting funding equal to the five year trend (2005 through 2009) for 2010 through 2012, as it is most representative of future work requirements and expected expenditures.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Pipeline Relocations – Franchise (Budget Codes 262, 269, 271, 272)	BUDGET NO. 271(NC), 272(Coll)
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The introduction of new technology and associated changes in business processes are anticipated to improve operational efficiency. Therefore, this forecast of capital expenditures was reduced to incorporate the new operating efficiencies. These efficiencies are estimated to be \$55,000 in 2010 and \$105,000 in 2011 and \$187,000 in 2012.

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>								
	Adjusted Historical					5 Year Trend Forecast		
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY
History								
labor	343	566	450	652	924	642	660	679
nonlabor	6,191	9,574	8,472	7,445	7,963	8,673	8,921	9,169
Total	6,534	10,140	8,922	8,097	8,887	9,315	9,581	9,848
FTEs	4.8	8.1	5.9	9.2	12.6	8.9	9.1	9.4
Opex Benefits								
labor						(26)	(39)	(50)
nonlabor						(29)	(66)	(137)
Total						(55)	(105)	(187)
FTEs						(0.4)	(0.5)	(0.7)
Forecast Results								
labor						616	622	629
nonlabor						8,644	8,855	9,031
Total						9,260	9,477	9,660
FTEs						8.5	8.6	8.7
Direct Cash Credits*	(446)	(843)	(874)	(97)	(847)			
Ratio Cash to Total Direct Cost**	-7%	-8%	-10%	-1%	-10%	-7%	-7%	-7%
Collectible Capital	(446)	(843)	(874)	(97)	(847)	(648)	(664)	(676)
Net Capital	6,088	9,297	8,048	8,000	8,040	8,612	8,813	8,984
FTEs	4.8	8.1	5.9	9.2	12.6	8.5	8.6	8.7
* Direct Cash Credits not included in GRID data, but shown here to calculate the collectible portion of capital								
** 2010 - 2012 ratio is the 2005 - 2009 average ratio								

For the collectible amount computation, a five year average of cash collected divided by total construction dollars spent yielded a 7% factor. This factor was applied to the total forecasted construction dollars for years 2010 through 2012 to derive the collectible portion amounts.

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Tools / Equipment - Optical Imaging Instruments	BUDGET NO. 715
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR							
DIRECT NONLABOR				15,700	0		15,700
TOTAL DIRECT CAPITAL				15,700	0		15,700
COLLECTIBLE							
NET CAPITAL				15,700	0		15,700
FTE							

Business Purpose

This work category includes expenditures associated with the purchase of capital tools and equipment used by distribution field personnel to conduct annual leak detection surveys of fugitive emissions at aboveground metering and regulation stations.

Physical Description

Optical imaging Instruments typically passive infrared cameras designed to detect and visualize physical materials such as vapors and mists via their infrared spectral adsorption are used for leak detection and repair of fugitive gases. It provides the ability to rapidly scan area for large leaks and increase leak survey efficiencies at various types of locations.

Project Justification

Section 98.234(a), "Monitoring and QA/QC Requirements" of Proposed Subsection W of the EPA Mandatory Greenhouse Gas Reporting rule states that a company must use methods described to conduct annual leak detection of fugitive emissions from a source listed in Sec. 98.233 (q) in operation or on standby mode that occur during the reporting period. Method 1 of Sec. 98.234 is an optical gas imaging instrument. Rule compliance will begin in January 2011.

However, as discussed in the prepared direct testimony of Ms. Lisa Gomez, Exhibit SCG-15, since there remains a degree of uncertainty about the specific compliance requirements, SCG is proposing two-way balancing of the costs incurred for the purchase of the scanning equipment under the New Environmental Regulatory Balancing Account. Please see the prepared direct testimony of Mr. Greg Shimansky, Exhibit SCG-34, for details of accounting treatment.

Forecast Methodology

SCG proposes to purchase approximately three units per district (157 units) at \$100,000 each in 2011.

Schedule

This is a routine budget category consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Routine Tools / Equipment – (Budget Codes 713, 714, 715, 725, 729)	BUDGET NO. 725
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR							
DIRECT NONLABOR		355	493	493	493		1,834
TOTAL DIRECT CAPITAL		355	493	493	493		1,834
COLLECTIBLE							
NET CAPITAL		355	493	493	493		1,834
FTE							

Business Purpose

This work category includes expenditures associated with the purchase of capital tools and equipment used by distribution field personnel for the maintenance and repair of gas pipeline systems. The main driver of this plant category is the need to replace existing tools that are broken, outdated technologically, or have out lived their useful lives. In addition, SCG invests in new tools that provide innovative ways of completing the maintenance and repair of its facilities in order to lessen customer disruptions and improve construction safety.

Physical Description

Routine tool and equipment purchases are used by the gas distribution field, meter shop, fabrication & repair shop, measurement & controls department and others to economically and safely install, and maintain the gas distribution system and equipment.

Forecast Methodology

Historical capital tool spend was separated into routine purchases which include replacements of broken and obsolete tools and equipment, and significant system-wide replacements or roll-outs of new technology. The forecasted expenditures for routine purchases were determined by using a historical five year (2005 through 2009) average.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Routine Tools / Equipment – (Budget Codes 713, 714, 715, 725, 729)	BUDGET NO. 725
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

Tools - All Purchases - BC 713,714,715,725,729										
<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>										
Adjusted Historical										
	2005A	2006A	2007A	2008A	2009A					
History										
labor	-	61	5	(1)	-					
nonlabor	410	1,228	2,745	285	355					
Total	410	1,289	2,750	284	355					
FTEs	0.0	0.8	0.0	0.0	0					
Less Large Systemwide Purchases - Nomax coveralls and leak detection units										
<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>										
Adjusted Historical										
	2005A	2006A	2007A	2008A	2009A					
History										
labor										
nonlabor		(621)	(2,004)							
Total	-	(621)	(2,004)	-	-					
FTEs										
Routine Purchases Tools - BC 713,714,715,725,729										
<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>										
	Adjusted H					5 Year	Forecast			
	2005A	2006A	2007A	2008A	2009A	Average	2010E	2011E	2012TY	
History										
labor	-	61	5	(1)	-	13	-	-	-	
nonlabor	410	607	741	285	355	480	493	493	493	
Total	410	668	746	284	355	493	493	493	493	
FTEs	0.0	0.8	0.0	0.0	0	0.2	0.0	0.0	0.0	

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Tools / Equipment - Remote Laser Leak Detector (Budget Code 725)	BUDGET NO. 725
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR							
DIRECT NONLABOR				900	900		1,800
TOTAL DIRECT CAPITAL				900	900		1,800
COLLECTIBLE							
NET CAPITAL				900	900		1,800
FTE							

Business Purpose

This work category includes expenditures associated with the purchase of capital tools and equipment used by distribution field personnel for the maintenance and repair of gas pipeline systems.

Physical Description

The Remote Laser Leak Detector is a new leak survey instrument that uses a point and shoot laser beam to measure concentrations of natural gas. It provides the ability to leak survey locations that are difficult to access and in which standard survey units could not be used, such as an inaccessible meter location, a heavily congested roadway or intersection, or when gas pipelines are installed on bridges thereby increasing the safety and efficiency of gas distribution crews and the safety of customers.

Project Justification

SCG invests in new tools that provide innovative ways of completing the maintenance and repair of its facilities in order to lessen customer disruptions and improve construction safety. SCG has tested these units and determined that they effectively and efficiently detect leaks in inaccessible locations.

Forecast Methodology

SCG proposes to purchase two units per district (100 units) at \$18,000 each spread over two years beginning in 2011.

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Tools / Equipment - Multigas Detectors (Budget Code 727)	BUDGET NO. 725
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR	21	47	60	50			178
DIRECT NONLABOR	61	806	1,640	810			3,317
TOTAL DIRECT CAPITAL	82	853	1,700	860			3,495
COLLECTIBLE							
NET CAPITAL	82	853	1,700	860			3,495
FTE	.2	.5	.6	.5			1.8

Business Purpose

Customer Service Field (CSF) personnel at SCG currently use several different electronic instruments for natural gas and carbon monoxide (CO) detection. A review of the electronic and leak detection equipment used by CSF personnel at SCG revealed several items, including:

- The existing leak and carbon monoxide detection tools have a typical useful life of approximately seven to ten years. The age of SCG’s equipment varies from ten to thirteen years.
- The original manufacturer of the leak detection equipment stopped providing the sensor necessary to operate the unit.
- Technology for this type of equipment has advanced, rendering the existing devices technologically obsolete.

Due to the age and condition of CSF’s current electronic leak/CO detection equipment, as well as technological advances in leak detection equipment, SCG decided that each separate instrument should be replaced with one multi-gas detection unit.

Physical Description

This project consists of the replacement of three different natural gas/CO detection instruments (GasTrac, Monoxor II and Gas Scope), currently used by SCG CSF personnel, with one multi-gas detection unit (manufacturer to be determined) that’s capable of simultaneously detecting either gas. Additionally, the new multi-gas detector has capacity for expansion, allowing additional sensors for confined space or other readings to be added at any time.

Project Justification

Based on the information above (i.e. age of current detection equipment, technological advances), SCG decided that the current equipment be replaced with a new multi-gas detection instrument.

Forecast Methodology

Several makes and models were considered and field tested, and preliminary competitive bids were received from a few vendors that were approved as suitable replacements. Each manufacturer provided preliminary cost estimates to equip SCG CSF personnel with detectors, including part warranties.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Tools / Equipment - Multigas Detectors (Budget Code 727)	BUDGET NO. 725
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

Manufacturers' preliminary bids suggest a cost of about \$1,500 per unit, with calibration stations priced at about \$5,000 per station. In addition, miscellaneous parts and accessories, as well as labor costs to administer the program will be incurred. The total cost of the program will be \$3,495,000 and was calculated as follows:

Multigas Detector Program Estimated Cost in \$2009 Dollars			
Program Component	Unit Cost ('000)	Number of Units	Total Program Cost ('000)
Multigas Detector cost	\$ 1.5	1900	\$ 2,850
Calibration station costs	\$ 5.0	58	\$ 290
Miscellaneous parts/accessories/and expenses			\$ 177
Labor	\$ 98.9	1.8	\$ 178
TOTAL			\$ 3,495

The five years of historical and three years of projected spending are shown below.

Multigas Detectors BC 727									
<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>									
	Adjusted Historical					Forecast			
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY	
History									
labor				21	47	60	50		
nonlabor				61	806	1,640	810		
Total	-	-	-	82	853	1,700	860	-	
FTEs				0.2	0.5	0.6	0.5		

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Mobile Home Parks (Budget Code 906)	BUDGET NO. 906
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		3	4	4	4		15
DIRECT NONLABOR		1	63	63	63		190
TOTAL DIRECT CAPITAL		4	67	67	67		205
COLLECTIBLE							
NET CAPITAL		4	67	67	67		205
FTE		.0	.1	.1	.1		.3

Business Purpose

The Mobile Home Park (MHP) category includes the purchase of existing mobile home park natural gas distribution systems.

Physical Description

MHP owners are finding it more difficult to operate and maintain their natural gas distribution systems due to the Operator Qualification rule and new environmental requirements. As a result, it is anticipated that some MHP infrastructure will be transferred to SCG. Prior to transferring the assets, the MHP facilities must be inspected to ensure they comply with SCG safety and operational requirements.

Based on previous inspections, it is expected that most MHP gas distribution systems, will not comply with SCG safety and operations requirements unless significant facility improvements are completed. Either SCG or third-party contractors can make these facility improvements before transferring to SCG. The system transfer values are based on each park's asset attributes (i.e. pipeline footage, mains and service line condition, and pipe size).

Project Justification

Public Utilities Code 2791 (1996) require local utilities to work with mobile home park owners, upon written request, to transfer ownership of their utility distribution systems.

Forecast Methodology

The forecasted expenditures were determined by using a historical five year (2005 through 2009) average. This method was chosen due to the unpredictable external customer driven frequency and timing of mobile home gas distribution system purchases.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Mobile Home Parks (Budget Code 906)	BUDGET NO. 906
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>									
	Adjusted Historical					5 Year Average	5 Year Average Forecast		
	2005A	2006A	2007A	2008A	2009A		2010E	2011E	2012TY
History									
labor	10	3	5	-	3	4	4	4	4
nonlabor	179	57	79	-	1	63	63	63	63
Total	189	60	84	-	4	67	67	67	67
FTEs	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Field Capital Support (Budget Code 903)	BUDGET NO. 1006
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

PROJECT COST (\$000 in 2009\$)	PRIOR YEARS	2009	2010	2011	2012	REMAINING YEARS	TOTAL
DIRECT LABOR		35,943	37,963	39,847	39,334		153,087
DIRECT NONLABOR		(202)	360	360	360		878
TOTAL DIRECT CAPITAL		35,741	38,323	40,207	39,694		153,965
COLLECTIBLE		0	0	0	0		0
NET CAPITAL		35,741	38,323	40,207	39,694		153,965
FTE		485.2	506.8	531.9	523.8		2,047.7

Business Purpose

This work category provides the labor and non labor funding for a broad range of services to support Gas Distribution field capital asset construction.

Physical Description

Traditional work elements recorded to this budget category include project planning, local engineering, clerical support and field dispatch, field management and supervision, and off-production time for support personnel and field crews that install the Gas Distribution capital assets.

Project Justification

The activities contained in Field Capital Support include key support functions for the safe, reliable and efficient construction of the gas distribution system.

Forecast Methodology

The forecast expenditures for Field Capital Support labor are based on a ratio of historical costs as a percentage of construction costs incurred. Over the past five years (2005-2009) the ratio has ranged from 28.4% to 36.1%. In 2007 the level of construction activity is comparable to that expected for TY2012. In that year the ratio of support services to construction costs was 32%. In comparison, the average ratio over the five year historical period is 33.6%. SCG recognizes that efficiency gains can be anticipated in this area. As a foundational forecast, SCG applied a ratio of 30% representing the average of the two lowest percentage years – 2006 and 2007. See the table below.

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Field Capital Support (Budget Code 903)	BUDGET NO. 1006
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

Ratio Computation - Adjusted Historical and Forecast									
Dollars in Thousands									
	2005	2006	2007	2008	2009	2010	2011	2012	
Field Support Labor Costs (Historical)	42,963	43,926	45,973	38,014	35,943				
Construction Costs (Hist and Forecast) *	121,308	154,751	143,855	105,176	100,177	117,447	127,552	134,193	
- Franchise	6,534	10,140	8,922	8,097	8,887	9,315	9,581	9,848	
- Freeway	830	1,974	1,012	788	2,219	2,219	2,219	2,219	
- Service Repl.	11,955	12,001	12,734	10,514	12,000	11,841	11,841	11,841	
- Main Repl.	24,694	29,122	38,720	33,395	35,696	32,325	32,325	32,325	
- Pressure Betterment	12,199	17,640	11,059	11,393	10,992	10,992	13,434	13,434	
- New Business	46,773	60,018	48,734	23,802	14,096	28,494	34,734	40,557	
- Supply Lines	4,022	5,326	3,833	829	1,953	3,193	3,193	3,193	
- Reg Station	4,159	5,657	4,526	4,327	3,864	6,355	7,263	7,565	
- Cathodic Protection	3,334	3,705	4,083	3,843	3,947	4,192	4,328	4,464	
- Main & Service Abandonments	4,056	4,233	5,295	3,667	2,858	4,022	4,022	4,022	
- Other Dist Projects	2,114	4,389	4,172	3,796	2,769	3,448	3,448	3,448	
- Mobile Home Parks	189	60	84	-	4	67	67	67	
- Meter Guards	449	485	681	726	892	984	1,097	1,210	
Field Support Ratio	35.4%	28.4%	32.0%	36.1%	35.9%	32.1%	31.0%	30.0%	
Field Support Labor Costs (Initial Forecast)						37,708	39,541	40,258	
Savings due to Technology Changes						0	0	(1,230)	
Costs to Achieve Technology Savings						255	306	306	
Field Support Labor Costs (Final Forecast)						37,963	39,847	39,334	
* Construction costs include only the work categories requiring field support.									

Added to this base forecast are the labor requirements of the Area Resource Scheduling Organization (ARSO). Prior to 2010, distribution dispatching activities were predominately a manual and labor-intensive process to schedule, assign, dispatch, and coordinate resources and work orders. With the introduction of the OpEx 20/20 systems and processes, Dispatch Operations will be reorganized to manage the scheduling automation and improvements to the dispatching processes. Additional funding of \$255,000 in 2010, \$306,000 in 2011, and \$306,000 in 2012 is required for advisors and managers supporting the business process changes in the four operating regions.

Offsetting this increase, the introduction of new information systems technology and associated changes in business processes are anticipated to further improve operational efficiency. As a result, a \$1,230,000 reduction in labor was taken from the foundational forecast funding requirement in 2012.

The forecast expenditures for Field Capital Support non-labor are based on the five year average (2005 to 2009).

CAPITAL PROJECT WORKPAPER

PROJECT TITLE Field Capital Support (Budget Code 903)	BUDGET NO. 1006
WITNESS Gina Orozco-Mejia	IN SERVICE DATE Blanket

The five years of historical and three years of projected spending are shown below.

<i>All years stated in DIRECT \$000 2009 Dollars and Includes V&S</i>								
	Adjusted Historical					Forecast		
	2005A	2006A	2007A	2008A	2009A	2010E	2011E	2012TY
History								
labor	42,963	43,926	45,973	38,014	35,943	37,708	39,541	40,258
nonlabor	448	839	348	369	(202)	360	360	360
Total	43,411	44,765	46,321	38,383	35,741	38,068	39,901	40,618
FTEs	573.7	589.8	581.9	529.4	485.2	503.8	528.3	537.8
Opex Costs & Benefits								
labor						255	306	(924)
nonlabor						-	-	-
Total						255	306	(924)
FTEs						3.0	3.6	(14.0)
Forecast Results								
labor						37,963	39,847	39,334
nonlabor						360	360	360
Total						38,323	40,207	39,694
FTEs						506.8	531.9	523.8

Schedule

This is a blanket budget consisting of many like-kind projects that are constructed throughout the year and repeated annually.