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

Application 10-12-___
Exhibit No.: (SCG-02)

PREPARED DIRECT TESTIMONY OF
GINA OROZCO-MEJIA
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

DECEMBER 2010

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PREPARED DIRECT TESTIMONY OF
GINA OROZCO-MEJIA
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY
(GAS DISTRIBUTION)

I. INTRODUCTION

A. Scope and Purpose of Testimony

The purpose of this testimony is to demonstrate that Southern California Gas Company's (SCG or the Company) Distribution Operations capital expenditure and expense forecasts required to operate and maintain its gas distribution system and to construct new gas distribution facilities are reasonable. SCG's fundamental philosophy is to achieve operational excellence while providing safe and reliable delivery of natural gas to customers at the lowest reasonable cost. Specifically, the activities discussed herein are:

- Required to maintain safety.
- Reflective of local, state, and federal regulatory operational compliance requirements.
- Responsive to customer growth.
- Compliant with franchise obligations.
- Necessary to maintain overall system integrity and reliability.

This testimony discusses non-shared and shared expenses in support of operation and maintenance (O&M) functions for gas distribution mains and services, measurement and regulator stations, customer meters, regulators and electronic equipment and includes the associated engineering, supervision, technical and regional public affairs support. The Capital expenditures presented herein are in support of the installation, replacement and relocation of the distribution pipeline infrastructure. All costs in this testimony are shown in 2009 dollars, unless otherwise noted.

In total, SCG is requesting the Commission adopt its 2012 Test Year (TY2012) forecast of $132,337,000 for total Gas Distribution O&M expenses, which is composed of $131,182,000 for non-shared service activities and $1,155,000 (booked expense) for shared service activities. SCG is also requesting the Commission adopt its forecast of capital expenditures for 2010, 2011, and 2012 of $187,825,000, $224,217,000 and $212,576,000, respectively.

Table SCG-GOM-01
Gas Distribution O&M and Capital
Forecast Summary
(Shown in Thousands 2009 Dollars)

Description	2009 Adjusted-Recorded	TY2012 Estimated	Change	Testimony Reference
Total Non-Shared	92,312	131,182	38,870	Section II
Total Shared Services (Book Expense)	1,121	1,155	34	Section III
Total O&M	**93,433**	**132,337**	**38,904**	

Description	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated	Testimony Reference
Total Capital	**158,753**	**187,825**	**224,217**	**212,576**	Section IV

B. Overview of SCG Distribution System Operations and Organization

SCG's gas distribution system consists of a network of approximately 97,400 miles of interconnected gas "mains" and "services". These mains and services, constructed of both steel and plastic materials in varying sizes, are located in most streets within SCG's service territory. The primary function of this distribution pipeline network is to deliver natural gas from SCG's transmission system to approximately 5.5 million customer meters in an area of approximately 20,000 square miles stretching from Visalia in the north to Mexico in the south, and as far east as the California/Nevada border (refer to Figure SCG-GOM-1).

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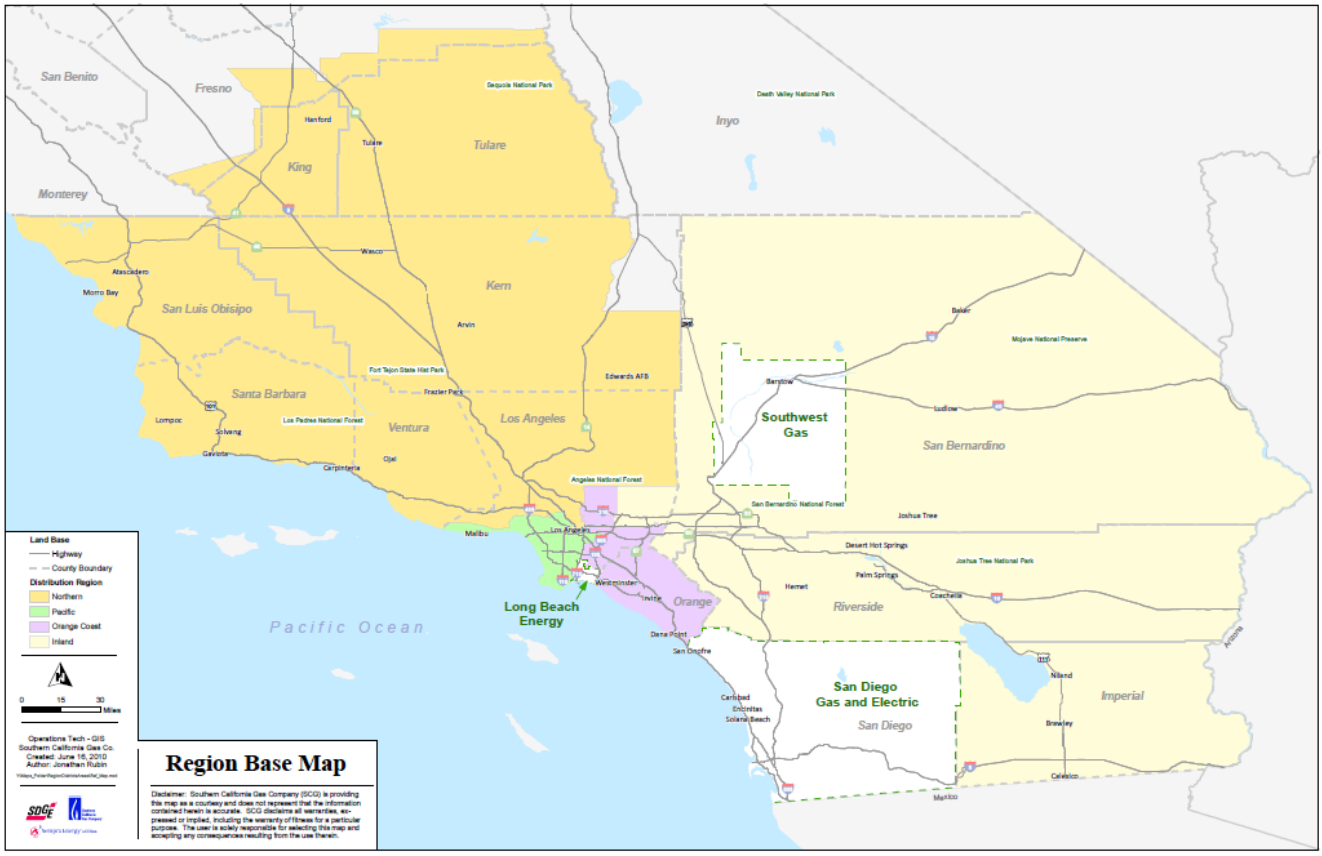
Figure SCG-GOM-01
SCG Gas Distribution Service Territory



The distribution gas main pipelines operate at either high-pressure (over 60 pounds per square inch (psi)) or medium-pressure (60 psi and below). SCG owns and maintains a network of approximately 48,800 miles of gas mains. This system contains numerous valves capable of isolating its large service territory into smaller operating areas for operational, construction and emergency purposes. There are also regulator stations located throughout the system that maintain gas pressure and regulate the distribution system to provide adequate capacity to meet customer needs. The final section in this network is comprised of the gas service lines which connect these high- and medium-pressure mains to each customer's meter set assembly (MSA) and “house pipeline”. SCG owns and maintains approximately 48,600 miles of service lines.

SCG routinely performs work to maintain the daily operation of the system, connect new customers, ensure there is the necessary capacity to serve all of its customers, replace damaged or deteriorating facilities, and relocate facilities to meet customer or regulatory needs. This work is accomplished by a well-trained and skilled workforce. This workforce ranges from front line

construction crews to technical planners and field engineers. There are approximately 1,600 distribution employees located at four operating region headquarter facilities and 51 operating bases throughout SCG's service territory. These employees are responsible for ensuring the safe and reliable operation of the gas distribution system.

As noted above, there are approximately 97,400 miles of pipeline mains and services existing to meet the natural gas needs of SCG's customer base. SCG is committed to continued long-term investment in its pipeline infrastructure to ensure the integrity of its distribution system and comply with applicable local, state and federal laws and regulations. SCG actively evaluates the condition of its pipeline system via its maintenance and operations activities, and replaces pipeline segments to preserve the safe and reliable system customers have come to expect. SCG and its customers cannot afford to wait for a major incident to occur to respond with necessary replacement activities. With the forecasted level of funding, and by continuing to identify ways to improve gas distribution system installation, operation, and maintenance activities, SCG will have the necessary resources to manage through these business and operational challenges, and will continue to provide safe, reliable and cost-effective natural gas service.

C. Challenge to the Operations

SCG faces a number of challenges affecting both the physical operation of the pipeline system and cost management aspects of its business that contribute to the forecasts presented in this testimony. These challenges include:

<u>System Expansion</u>

SCG's pipeline system continues to expand as new construction adds to the customer base and the necessary pipeline infrastructure. During the more robust economic times between 2005 and 2008, SCG averaged approximately 69,300 new customers per year requesting to be connected to the system. Although reducing to roughly 31,800 connections in 2009, the pipeline infrastructure continues to grow. In 2005, SCG reported over 94,200 miles of main and services. By 2009, this number had grown to 97,400 – an increase of 3% over the five years. These new facilities add to the inventory of assets requiring operations and maintenance attention. Pipelines must be leak-surveyed to monitor asset condition and any deficiencies found must be corrected. Facilities must be located and marked to minimize potential damage from outside sources. System valves, meters and regulators must be inspected, operated and maintained. Each of these actions must be completed in accordance with federal and state regulations and are critical to maintaining a safe and reliable operating system.

Aging Infrastructure

The Company's long history in the delivery of natural gas also means that a significant portion of the pipeline infrastructure has been in service for over 50 years. Good maintenance practices have allowed SCG to safely and reliably use these pipeline facilities for this extended period of time. However, as the Company's pipeline infrastructure continues to age, it requires higher levels of maintenance, resulting in increasing operations and maintenance costs.

In addition to aging pipelines, SCG is also experiencing aging of other pipeline infrastructure such as measurement and regulation equipment, electronic systems, and cathodic protection system components such as anode beds and rectifiers. All components of the gas distribution system have a finite useful life that must be observed and repairs must be anticipated in order to avoid service interruptions, non-compliance situations, or adverse safety conditions.

Economic Conditions

As a utility, SCG has an obligation to provide customers within its service territory natural gas services in accordance with tariff rules. As the customer base grows and expands, new demands are placed on the existing infrastructure. For example, customer load growth creates the need for facility upgrades, increasing customer density can require the relocation of existing infrastructure, and general business improvements require the Company to protect its infrastructure from potential damage due to third-party construction. Field experience indicates that more favorable economic conditions lead to increases in various work requirements. Gas Distribution has chosen employment growth, as reported by IHS Global Insight, as a directional indicator for general economic conditions and potential economic growth. This IHS Global Insight employment forecast is shown in the SCG cost escalation workpapers of witness Mr. Scott Wilder, Exhibit SCG-31-WP. In general, IHS Global Insight forecasts that the Southern California area's non-farm employment growth rate hit a low in 2009, with 2010 marking a transitional year. It is projecting a rebound in employment growth through 2012, with forecasted employment in 2011 and 2012 near what was seen in 2005 through 2006.

Trained Workforce

Maintaining a skilled and dedicated workforce is critical to success. It is through the efforts of these employees that SCG is able to continue to deliver valued service to its customers and maintain its pipeline infrastructure. As in many industries, SCG is experiencing turn-over in workforce due primarily to retirements and employee movement as a result of promotions and transfers. This presents issues of knowledge transfer, skills development, and overall proficiency of the replacement workforce. Gas Distribution is taking appropriate measures to maintain this highly skilled workforce

recognizing that safety and system reliability cannot be sacrificed during this time of employee transition. As new and less experienced employees step in to replace highly skilled employees, SCG is conscientiously training and mentoring them, giving them on-the-job experiences, and providing greater levels of supervision and quality assurance to ensure a continued focus on proficiency and safety.

Agency Requirements

The construction, operation, and maintenance of SCG's vast pipeline system require interaction and compliance with numerous agencies. These agencies continue to impose new and often more stringent administrative, planning, and field construction operating conditions that can result in increased cost pressures to maintain the gas distribution system.

For example, in the area of administration, recent changes in municipality requirements have led to increases for SCG in construction permit and other associated costs. SCG's average O&M cost per permit has increased by 33% since 2005, well in excess of general non-labor inflation. Additionally, city requirements for engineered traffic control plans as a condition of permitting construction and maintenance also contribute to increased expenditures. Cities are citing safety concerns as the reason for this additional requirement. Historically, only projects having special circumstances related to traffic control required engineered traffic plans. These specialized engineered plans must be prepared by a contract engineering firm, thus increasing costs to the operations. Based on experience in SCG's Technical Planning office, during 2009 the percentage of jobs requiring these plans rose from 3% to 10%. Most recent experience indicates that this trend will continue into the future.

SCG is facing additional paving repair requirements imposed by municipalities that impact field construction practices and therefore result in increased costs. These include requiring T-Cuts, grinding for steel plate installation, and paving repair size that exceeds the actual cut size. From 2005 to 2009 SCG's average cost per paving order increased by 65%. SCG anticipates this significant cost increase in paving will continue in future years.

Another example of restrictions affecting construction costs is the growing number of municipalities requiring the removal of paint markings used to identify substructures during construction projects. In these instances, the onus is on the entity requesting the Underground Service Alert (USA) locate-and-mark ticket to remove markings placed on sidewalks and streets by all utilities responding to the request. As part of its own construction activities, SCG requests other utilities mark

their underground facilities. Thus, SCG field personnel will be responsible to remove these marks utilizing a variety of methods.

Finally, cities are also imposing restricted work hours resulting in more days to complete work. As urban centers become more congested with vehicular traffic, more cities are restricting the hours when construction work can be performed during the day or even requiring some work to be completed at night. This growing trend toward restricted working hours reduces the time available to complete work, impacting field productivity.

Even though SCG works diligently with these agencies to find solutions that will be in the best interest of ratepayers and agencies, often these rules result in cost increases.

Environmental Compliance

In addition to the many environmental regulations that SCG must comply with in its daily field operations, there are new and pending laws and regulations that are anticipated to impact SCG during this rate case cycle. In the past few years, federal, state, and local legislatures and government agencies have adopted and proposed new environmental laws, rules, and programs that will be implemented in this GRC period. Today's regulations address the handling of soils at the job site, disposal of waste from facilities, and air emissions levels at various operating sites. New and proposed environmental laws, rules, and programs that will produce upward financial pressures include greenhouse gases ("GHGs"), natural resources, storm water, and miscellaneous environmental expenses. All of these additional requirements are adding to the cost of constructing, operating, and maintaining the natural gas distribution system. Many of these regulations are discussed in the prepared direct testimony of Ms. Lisa Gomez, Exhibit SCG-15.

Integration of Technology

As discussed in the OpEx20/20 prepared direct testimony of Mr. Richard Phillips, Exhibit SCG-13, SCG is implementing a program of technology-based systems and processes to improve operations and provide more tools and information for supervisors and employees. Very simply, for Gas Distribution Operations these systems and processes will change the way:

- Office personnel search for and document asset record information.
- Technical personnel plan and monitor construction projects.
- Dispatch personnel schedule and dispatch field work elements.
- Field employees receive daily work assignments and process the completion of these activities.
- Supervisors interface with employees and access information.

These extensive changes are critical to longer-term management of the Company's distribution assets and operations. For that reason, SCG reprioritized some work elements in order to fund the development and implementation efforts of this new technology. Given the extent of the anticipated changes, ongoing evaluation of business practices and process improvements was placed on hold and employees in staff assignments, who traditionally completed this work, were assigned on a full-time basis to the project. In addition, economic conditions changed, reducing the level of spending required on new construction, allowing the redeployment of capital allocations. The Company has managed through these temporary redeployments to bring forth this technology solution.

The forthcoming process changes will affect numerous parts of the organization and require training of many employees on the new technology tools and business process changes. Managing the transition from the "old world" into the "new" is not a trivial task. Precise coordination is necessary to ensure employees receive the training necessary to complete their assignments with these new tools while maintaining various compliance inspection cycles. Once trained on the new method and processes, employees must become proficient on these tools to ensure that all compliance activities are completed properly and in a timely fashion. The challenge to the field organization is to ensure a smooth transition while continuing to get all required work elements completed.

Once this technology is implemented, the organization must embrace the change. Support systems must be in place to monitor the integration of these tools within the field and overall management practices. Field procedures will need to be reviewed and changes to processes adopted as circumstances dictate. Reports and tools will need to be established to gather, consolidate, and summarize much of the newly available data to monitor the effectiveness of operations and identify future business improvements.

D. Summary of Request

In total, SCG is requesting the Commission adopt its Test Year 2012 (TY2012) forecast of $132,337,000 for Gas Distribution O&M expenses, which is composed of $131,182,000 for non-shared service activities and $1,155,000 (booked expense) for shared service activities. SCG is also requesting the Commission adopt its forecast for capital expenditures in 2010, 2011, and 2012 of $187,825,000, $224,217,000, and $212,576,000, respectively. The tables below further define this request. SCG's O&M and Capital requests are reasonable and fully justified in that:

- The activities are necessary to maintain the delivery of safe and reliable service that SCG has been providing customers for many years.

- The activities are consistent with operational codes and standards established by local, state, and federal agencies.
- The activities respond to operations, maintenance, and construction needs associated with projected customer and system growth and demands of cities and counties under the Company's franchise agreements.
- The forecast amounts are reasonable in light of historical spending.
- The forecast incorporates significant cost reductions from process changes reducing otherwise foreseen increases in overall company capital spending.

Table SCG-GOM-02
Gas Distribution O&M Non-Shared Services
Non-Shared Services Summary
Testimony Section II
(Shown in Thousands 2009 Dollars)

Categories of Management	2009 Adjusted-Recorded	TY2012 Estimated	Change
1. Field Operations & Maintenance	66,666	100,934	34,268
2. Asset Management	13,967	14,190	223
3. Operations Management & Training	7,772	12,151	4,379
4. Regional Public Affairs	3,907	3,907	0
Total	**92,312**	**131,182**	**38,870**

Table SCG-GOM-03
Gas Distribution O&M Shared Services
Shared Services – Booked Expense Summary
Testimony Section III
(Shown in Thousands 2009 Dollars)

Retained by SCG	2009 Adjusted-Recorded	TY2012 Estimated	Change
1. Operations Leadership	255	299	44
2. Operations Technical Support	602	593	-9
SCG Retained Sub-Total	857	892	35
Billed-In From SDG&E	264	263	-1
SCG Book Expense	**1,121**	**1,155**	**34**

Table SCG-GOM-04
Gas Distribution Capital
Capital Expenditures Summary
Testimony Section IV
(Shown in Thousands 2009 Dollars)

Category Description	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
1. New Business	15,310	31,395	37,945	43,854
1. 29 Palms Marine Base	0	2,800	10,200	4,800
2. Pressure Betterment Projects	10,992	10,936	13,306	13,200
3. Supply Line Replacements	1,953	3,180	3,164	3,139
4. Main Replacements	35,696	32,063	31,873	31,598
5. Service Replacements	12,000	11,639	11,529	11,408
6. Main & Service Abandonments	2,858	4,022	4,022	4,022
7. Regulator Station Projects	3,864	6,319	7,186	7,424
8. Cathodic Protection	3,947	4,192	4,328	4,464
9. Pipeline Relocations - Freeway	2,219	2,207	2,196	2,179
10. Pipeline Relocations - Franchise	8,887	9,260	9,477	9,660
11. Mobile Home Parks	4	67	67	67
12. Other Distribution Capital Projects	2,769	3,448	3,448	3,448
12. Meter Guard Installations	892	984	1,097	1,210
13. Meters and Regulators	20,413	24,797	26,219	31,016
14. Equipment / Tools	1,208	2,193	2,253	1,393
14. New Environmental Regulatory Balancing Account	0	0	15,700	0
15. Field Capital Support	35,741	38,323	40,207	39,694
Total Capital	**158,753**	**187,825**	**224,217**	**212,576**

The following sections of testimony focus individually on the O&M and capital funding requests. Each presentation will address the activities completed, historical spending, projected business challenges, and justification for the request. Section II is dedicated to O&M Non-Shared Services; Section III to O&M Shared Services; and Section IV to Capital expenditures. Concluding remarks are presented in Section V, followed by the Witness Qualification in Section VI.

II. OPERATIONS AND MAINTENANCE (O&M) NON-SHARED SERVICES

A. Introduction

Operations and maintenance activities are routinely performed on over 97,400 miles of gas distribution main and service pipeline and associated facilities in response to federal and state regulatory agency codes and standards (*e.g.*, Transportation of Natural and Other Gas By Pipeline:

Minimum Federal Safety Standards, 49 C.F.R. §192; Cal. Gov. Code §4216, *et seq.*; CPUC General Order 112-E (August 21, 2008); CPUC General Order 58-A (last revised Dec. 16, 1992)), customer and pipeline growth expectations, franchise obligations, and to sustain a safe and reliable operation. This work includes leakage surveys, leak repairs, maintenance on mains and services, application of corrosion control measures, valve maintenance, regulator station maintenance, monitoring meter accuracy, checking for odorant, and locating and marking buried pipes to avoid damage caused from digging by others. In addition, there is a variety of supporting work necessary to complete this field operations and maintenance work. Examples of support work include maintaining pipeline maps and related gas system location information, administering and implementing city permitting and traffic control requirements, and the maintenance of engineering models of system flows and pressures. These are the core regulatory requirements for Gas Distribution. The level of funding requested in this testimony will allow compliance with pipeline safety regulations and the continued safe and reliable operation of SCG's gas distribution pipeline system. Spending to comply with the new federal mandated regulations on distribution pipeline integrity, known as the Distribution Integrity Management Program (DIMP), is addressed in the prepared direct testimony of Mr. Raymond Stanford, Exhibit SCG-05.

Unique cost centers are used to record the cost of O&M activities performed within Gas Distribution operations. Collectively, approximately 150 cost centers are used in recording costs shown within this testimony. To facilitate analysis of historical spending and to complete an evaluation of projected expenditures, cost centers have been aggregated into "workgroups" representing similar functions and/or having similar cost drivers. These 150 cost centers are thus aggregated into 12 workgroups which will be reviewed within this testimony under the following categories:

1. Field Operations and Maintenance
2. Asset Management
3. Operations Management and Training
4. Regional Public Affairs

In preparing its projections of the TY2012 requirements, SCG Gas Distribution Operations reviewed historical spending levels and developed an assessment of future requirements. This analysis entailed a review of the historical 2005 to 2009 spending and consideration of the underlying cost drivers. Dependent on future expectations for the underlying cost drivers, a primary forecast methodology was selected. These methods included:

- Forecast based on historical averages.
- Forecast based on simple trending of historical data.
- Forecast based on 2009 adjusted recorded spending.

In addition, work requirements that were incremental to levels of historical spending and necessary to maintain the safe and reliable operations of the distribution system were identified. An analytical calculation was then performed to determine the funding requirement of these new or more-extensive work elements. An incremental requirement may impact multiple workgroups. In these cases, the additional work element will be discussed in multiple places throughout this testimony. However, the specific impact to the workgroup in question will be described in the section addressing that workgroup. Although an additional work element may be discussed in multiple locations, the identified costs are not double counted. The overall result is a forecast that has its foundation based on the historical representation (e.g. an average, trend, or 2009 adjusted recorded base year), to which is added incremental expense requirements for new or more extensive work elements.

In summary, Gas Distribution is requesting the Commission adopt its TY2012 forecast of O&M expense for non-shared services of $131,182,000. (See Table SCG-GOM-05 below.) This is an increase of $38,870,000 over the 2009 adjusted recorded base. Of this increase, $23,442,000 is related to environmental compliance requirements for which SCG is seeking two-way balancing account treatment. The remaining increase is driven by increased agency regulations and requirements, improved economic conditions, system expansion, infrastructure renewal, field technical skills training, and integration of new technology. A discussion of these funding requirements is presented in Section II.B. of this testimony.

The Commission should find this forecast reasonable and fully justified in that: 1) the activities support continued delivery of safe and reliable service; 2) activities are consistent with local, state, and federal regulations; 3) activities respond to operations, maintenance, and construction needs associated with projected growth and franchise requirements; and 4) the forecast amounts are reasonable in light of historical spending.

Table SCG-GOM-05
Gas Distribution O&M Non-Shared Services
O&M Non-Shared Services Summary
(Shown in Thousands 2009 Dollars)

Categories of Management	2009 Adjusted-Recorded	TY2012 Estimated	Change
1. Field Operations & Maintenance	66,666	100,934	34,268
2. Asset Management	13,967	14,190	223
3. Operations Management & Training	7,772	12,151	4,379
4. Regional Public Affairs	3,907	3,907	0
Total	**92,312**	**131,182**	**38,870**

B. Discussion of O&M Activities

1. Field Operations and Maintenance

Reviewed in this section of the testimony are activities and associated O&M expenses to address the physical condition of the gas distribution system. As discussed in Section I.B. of this testimony, gas distribution activities are performed from a regional organizational structure. Similar activities are completed at 51 operating bases located throughout the 20,000-mile service territory. The activities completed at these operating bases form the essence of this category –"Field Operations and Maintenance". These activities can be described as "preventative", "corrective" or "supportive" in nature. Preventative work is generally completed on a scheduled basis. It includes the activities and associated costs shown within the workgroups of Locate and Mark, Leak Survey, and Measurement and Regulation. Corrective work is generally reactive to a situation or facility condition. This includes the activities and associated costs shown in the workgroups of Cathodic Protection, Main Maintenance and Service Maintenance. Finally, supportive elements are necessary to completing work assignments. Included in this area are the activities and associated costs discussed in the Field Support and Tools, Materials and Fittings workgroups**.**

Table SCG-GOM-06
Gas Distribution O&M Non-Shared Services
Field Operations and Maintenance
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
a. Locate & Mark	9,687	10,557	870
b. Leak Survey	3,731	4,145	414
c. Measurement and Regulation	11,162	35,725	24,563
d. Cathodic Protection Field	2,207	2,946	739
e. Main Maintenance	6,687	7,931	1,244
f. Service Maintenance	10,161	10,876	715
g. Field Support	14,411	18,609	4,198
h. Tools, Fittings & Materials	8,620	10,145	1,525
Total	**66,666**	**100,934**	**34,268**

a. Locate and Mark

Table SCG-GOM-07
Gas Distribution O&M Non-Shared Services
Field O&M - Locate and Mark
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
a. Locate & Mark	9,687	10,557	870

The activities completed under this cost workgroup are preventative in nature and are required to avert damages caused by third-party excavators working near gas underground substructures. The work is primarily comprised of:

- Locating and marking SCG's underground pipelines.
- Conducting job observations.
- Performing depth checks.

Locate and mark (L&M) is a process mandated by 49 C.F.R. §192 and California's "One Call" statute (Cal. Gov. Code § 4216, *et seq*.), requiring the owner of underground facilities to identify substructures at locations of planned excavations. Once notification is received from Underground Service Alert (the USA one-call center), SCG has two working days to respond and identify the location of SCG's pipelines within the identified parameter of a pending excavation project. SCG's

employees receive L&M work orders electronically on a Mobile Data Terminal (MDT) through a wireless connection or while docked at the operating base. The employee must travel to the project site and identify the location of SCG's underground substructures utilizing an electronic pipe-locating device, substructure maps, and service history records. Color-coded markings are then placed over the substructure to visually identify the location of SCG's underground facilities. Locate requests can range in scope from a construction project entailing a single excavation, to projects comprised of thousands of feet of construction requiring extensive effort to appropriately mark the location throughout the length of SCG's underground pipelines.

Conducting job observations of other entities excavating in close proximity to SCG's pipelines is another important damage prevention activity included in this workgroup. Generally this involves an employee inspecting job sites to ensure that excavators are aware of the location of critical SCG facilities. The State of California enacted new regulations in the fourth quarter of 2007, Cal. Code Regs. tit. 8, §1541(b)(1)(B) (2007), that mandate a preconstruction meeting with excavators requesting L&M support and require continuous monitoring of all excavations within ten feet of high-pressure pipelines.

The third damage prevention activity included in this workgroup is referred to as "depth checks". This entails excavating over SCG's underground pipelines in advance of specific construction projects to identify elevation data. This information is often required in advance of a municipality construction project to avoid conflicts with, and potential relocation of, SCG's existing underground pipelines. If depth information is known, there are often ways to negotiate design changes that avoid costly relocation requirements.

The common drivers for all three of these damage prevention activities are the level of construction and development activity in the public and private sectors. Examples of these types of construction activities include private construction projects, such as commercial and industrial centers, strip malls, residential remodeling projects, and city projects such as street improvement, storm drain and sewer work. In addition, as SCG's infrastructure expands into outlying areas for new residential developments, increased activity follows as developers move in to construct schools, shops, restaurants, etc. to meet the needs of the new communities.

Construction activity and customer growth generally fluctuate with economic conditions. As economic conditions rebound (see also discussion in Section I.C. "Economic Conditions"), SCG expects to see costs in this workgroup increase. Thus, to reflect these improved business conditions and increase in L&M work, SCG is projecting TY2012 expenses for this workgroup to equal the five-

year average spending for the period 2005 to 2009. This methodology results in a $179,000 increase over the 2009 adjusted recorded base in TY2012.

Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund L&M activities in TY2012. These work elements are described below.

i. Federal Stimulus Funding

The American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, provided federal stimulus funding to local and state agencies to construct mobility projects that bring value to the local, state and federal economy. This act apportioned funds to California for highways, local streets and roads, freight and passenger rail, port infrastructure, and transit projects. As stimulus funding projects are constructed in local streets and highways, SCG expects to see an increase in L&M requests for those projects. The impact on L&M in TY2012 is $83,000 over the forecast base.

ii. Los Osos City Sewer System

SCG's local management has been in contact with The City of Los Osos in San Luis Obispo County regarding their plans for installing a sewer piping system to replace the existing septic tank systems. This project will include the installation of 45 miles of sewer lines plus service laterals which will encompass the entire city, serving approximately 15,000 residents with construction continuing through the year 2013. Additional L&M work by SCG will be required to identify conflicts with the sewer pipe installation. This additional work will require SCG resources to excavate the depth of company facilities ahead of construction, locate and mark company facilities before and during construction, and observe excavation work by third-party construction firms in proximity to company facilities. The additional funding required to support the City of Los Osos Project is $181,000 over the forecast base in TY2012.

iii. Removal of Paint Markings

As discussed previously, a growing number of municipalities are requiring the removal of paint markings used to identify substructures during construction projects. In these instances, the onus is on the entity requesting the Underground Service Alert (USA) L&M ticket to remove markings placed on sidewalks and streets by all utilities responding to the request. As part of its own construction activities, SCG requests other utilities mark their underground facilities. Thus, SCG field personnel will be responsible to remove these marks utilizing a variety of methods. In the recent past, approximately 5% of SCG work orders have required the removal of USA markings. However, this percentage has grown to approximately 20% as more cities strive to provide a more aesthetically

pleasing community. Based on this significant increase, SCG projects an incremental cost for removal of the USA markings over the forecast base spending level to be $230,000 for TY2012.

iv. Increased City/Municipality Requirements

Local and state agencies continue to impose new and often more stringent operating conditions that can result in increased cost pressures to maintain the gas distribution system. A complete discussion of these challenges is provided in Section I.C. "Agency Requirements" of this testimony. Increasing permit costs and construction requirements, such as engineered traffic control plans, additional paving requirements, and a growing trend toward restricted working hours, will increase SCG's expenses when excavating for depth to identify elevation data of SCG facilities in public Rights-of-Way in advance of many construction projects. The additional funding required to address increased city/municipality requirements is $197,000 over the forecast base in TY2012.

b. Leak Survey

Table SCG-GOM-08
Gas Distribution O&M Non-Shared Services
Field O&M - Leak Survey
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
b. Leak Survey	3,731	4,145	414

Recorded to this workgroup are the labor and non-labor expenses associated with federal pipeline safety regulation 49 C.F.R. §192.723 (Distribution systems: Leakage surveys) requiring SCG to survey its gas distribution system for leakage. SCG pipelines are leak surveyed at intervals of one, three, or five years. The frequency of this survey is determined by the pipe material involved (i.e. plastic or steel), the operating pressure, whether or not the pipe is under cathodic protection, and the proximity of the pipe to various population densities. Examples of annual survey are business districts which are defined as a principal business area in a community where large numbers of people regularly congregate to engage in business activities such as: purchasing, sales, manufacturing of commodities, or public service establishments such as schools, churches, and hospitals. Three-year survey cycles are used for all cathodically unprotected mains and services. Five-year survey cycles are typically used for plastic and cathodically protected steel mains and services installed in residential areas. During the survey, the field employee patrols above the identified location of SCG's distribution subsurface main and service pipelines with a leak detector to identify, classify, and

generate a repair work order for any leak indications found. SCG currently has 97,400 miles of main and service pipeline requiring leak survey.

Costs incurred in this workgroup are thus directly related to the amount of footage requiring survey. Survey requirements increase with every foot of new pipeline installed in the system. As pipe is added to the system to support new commercial and residential developments, it must be leak-surveyed in the timeframe required by state and federal regulations. For example, new pipe installed in the years 2005 through 2007 that is on a five-year survey cycle will increase survey footage requirements for the first time, in the years 2010 through 2012. Thus, the increase in leak survey footage and the associated increase in expenditures for this workgroup between 2005 and 2009 is the result of the 26 million feet of new pipe added to the SCG system between the years 2005 and 2007. The table below shows the historical amount of feet of pipe leak surveyed during the years 2005 to 2009, and the associated costs.

Table SCG-GOM-09
Gas Distribution O&M Non-Shared Services
Annual Distribution Pipe Leak Surveyed by Year

	2005	2006	2007	2008	2009
Footage Surveyed	102,671,230	105,795,610	110,055,294	116,299,385	117,193,314
Annual Expense (In Thousands 2009 Dollars)	$3,249	$3,446	$3,573	$3,696	$3,731

As SCG continues to experience growth in its system, survey requirements will increase. Therefore, SCG has forecasted TY2012 requirements based on a five-year trend for the period 2005 to 2009. In total, the incremental expense necessary to fund leak survey for its growing system is $414,000 over the 2009 adjusted recorded base in TY2012.

c. Measurement and Regulation

Table SCG-GOM-10
Gas Distribution O&M Non-Shared Services
Field O&M - Measurement and Regulation
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
c. Measurement and Regulation	11,162	35,725	24,563

Recorded to this workgroup are labor and non-labor expenses for maintaining and operating regulator stations, medium and large Meter Set Assemblies (MSAs), and associated components.

Meter and Regulation (M&R) activities focus primarily on maintaining and operating approximately 2,000 regulator stations and approximately 95,000 medium and large customer MSAs in the SCG service territory. Regulator stations reduce the pressure of gas entering the distribution system from high-pressure pipelines to provide the lower pressures used on the distribution pipeline network. Medium and large customer MSAs require routine maintenance of the meters, regulators, and other components to meet customers' capacity requirements and to measure gas volume accurately.

Federal pipeline safety regulation 49 C.F.R. §192.729(a) (Pressure limiting and regulating stations: Inspection and testing) requires annual inspection and maintenance of all regulator stations to ensure they are in good mechanical condition. Pressure checks are made to ensure the station is operating as intended and to ensure that the station's pressure protection devices perform as designed. If a station does not perform properly, internal maintenance and inspections are conducted. This consists of disassembling the regulator devices and inspecting the internal components for worn or damaged parts. Any faulty parts are replaced and the regulator is cleaned and inspected for corrosion. As regulator stations age, their parts and equipment begin to wear, malfunction, and are hard to disassemble, increasing maintenance requirements.

State regulation CPUC General Order 58-A requires routine maintenance on medium and large MSAs. This General Order requires that meters, regulators, and other components be maintained, repaired, and tested periodically to meet customers' capacity requirements and to measure gas volume accurately. To maintain measurement accuracy, meters are subject to Planned Meter Changes (PMC) or are periodically tested as prescribed in CPUC General Order 58-A, sec. 13. If an Electronic Pressure Corrector (EC) is used for gas measurement, it is also subject to periodic inspection. An EC work order includes checks on calibration, configuration, battery condition, communication, and wiring. If the MSA is housed in a vault, the vault needs to be inspected, and repaired if necessary, to ensure the protection of the MSA.

In developing the TY2012 forecast, historical expenditures for 2005 though 2009 were evaluated. To factor in periods of high operations and maintenance work as well as years with lower levels of work, SCG chose a five-year average spending for the period 2005 to 2009 to forecast the spending for TY2012. This approach allows SCG to capture historical spending under a variety of

conditions that reflect the historical fluctuation in labor and non-labor expenditures. This five-year average results in a decrease of $332,000 from the 2009 adjusted recorded base in TY2012.

Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund M&R activities in TY2012. These work elements are described below.

i. Aging Infrastructure – Replacement of Medium and Large MSAs

State regulation CPUC General Order 58-A requires meter accuracy to be maintained within certain parameters to ensure accurate billing to customers. Furthermore, CPUC General Order 58-A requires customer meters to provide adequate capacity and accurate volume registration. Prior to modern rotary meters becoming widely used in the industry, SCG used medium and large diaphragm meters to provide service to many commercial and industrial customers. However, as these meters age, they require more frequent field meter tests and adjustments to keep the registration accuracy within tolerance. Given that these meters are more than 20 years old and are reaching the end of their useful lives, they will be replaced through PMCs. It is forecasted that approximately 650 meters will be replaced each year. The incremental impact on M&R operations in TY2012 is $122,000 over the base forecast.

ii. Aging Infrastructure – Replacement of Regulators at Regulator Stations

Department of Transportation Rule 49 C.F.R. §192.729(a) requires that regulator stations must be routinely inspected and maintained to ensure that they are in good mechanical condition and adequately provide service capacity and reliable operation. Regulator stations control and reduce pressure by the use of pressure regulators. Certain models of pressure regulators that are used in regulator stations have been in service for over 25 years and have become obsolete. In comparison with the current models, the outdated designs of older pressure regulators take longer to repair and test. Also, their replacement parts have become scarce and costly. Regulator stations have the critical function of maintaining gas pressure in the system. A failure would likely result in the over-pressurization of the distribution system, causing significant integrity and safety concerns. Replacing these old models will ensure the adequate and reliable performance of regulator stations and lower the maintenance costs in the long run. A total of 1,668 regulators at regulator stations have been identified as obsolete. Their replacement costs will be a maintenance expense. SCG will begin replacing these regulators in 2011 at a rate of 334 replacements per year for five years. The incremental impact on M&R operations in TY2012 is $371,000 over the forecast base.

iii. Regulatory Requirements

As the business needs of larger-volume customers change, so do their natural gas usage requirements. This change results in a need to conduct load surveys, which in some cases leads to rebuilding the MSAs in order to ensure the gas volume and measurement are accurate. SCG routinely conducts these customer load surveys in order to comply with CPUC General Order 58-A, sec. 11(a). In 2008, SCG modified its load survey selection criteria to focus on customers with large changes in usage, who were more likely to need their MSAs rebuilt to improve measurement and volume accuracy. Previously the load surveys were issued along with planned meter change orders and did not target customers with the greatest need, resulting in a lower number of MSA rebuilds. The modified criteria for prioritizing customer surveys resulted in more frequent MSA rebuilds. The incremental impact on M&R operations in TY2012 is $539,000 over the forecast base.

iv. Increased City/Municipality Requirements

As noted previously, local and state agencies continue to impose new and often more stringent operating conditions that can result in increased cost pressures to maintain the gas distribution system. A complete discussion of these challenges is provided in Section I.C. "Agency Requirements" of this testimony. A growing trend toward restricted working hours will increase SCG's expenses for maintaining and operating regulator stations, medium and large MSAs, and associated components. Specifically, M&R crews are restricted on the hours that they can use the public right-of-way to conduct required inspection and maintenance activities. The additional funding required to address increased city/municipality requirements is $162,000 over the forecast base in TY2012.

v. Regulator Station Lid and Vault Maintenance

Department of Transportation Rule 49 C.F.R. §192.355 requires that all customer meters and regulators must be protected from damage. A large number of SCG's regulator stations are installed in underground vaults in order to protect them from tampering and vehicular damage. The lids of a regulator station, if not maintained, can pose a serious safety threat to the SCG technician performing maintenance as well as to the public. In addition, as the vaults that house regulator stations and MSAs age, they begin to crack, thereby increasing the potential for safety hazards. These facilities are increasingly requiring more repairs or the rebuilding of worn, warped, or cracked vaults and lids caused by general deterioration or long-term exposure to heavy traffic. SCG will replace lids and repair the vaults before they become a safety hazard. The incremental impact of this work on M&R operations in TY2012 is $22,000 over the forecast base.

vi. Pedestrian Access at Construction Sites

During hearings on SCG's TY2008 GRC, SCG entered into an agreement with the Disability Rights Advocates (DiRA) to modify SCG's field practices providing for safer pedestrian access around construction sites for disabled individuals. Since that agreement was signed SCG, working with DiRA, has identified materials and procedural changes that address DiRA's concerns. To effectively integrate these changes into daily operations requires the purchase of specialized barricades and ramps to be used at the construction site, additional field training on proper use and placement of these devices, and incremental preparation time at the job site. SCG will incur incremental costs in this workgroup to comply with these new procedures for set-up and tear-down time of this accessibility equipment. These new procedures will impact some of the M&R work that obstructs access to sidewalks and/or driveways, such as operations and maintenance work at regulator stations and MSAs. This incremental safety requirement represents an increase of $179,000 in TY2012 over the forecast base.

vii. Incremental Odorization Testing

SCG conducts odorant testing as a safety measure to ensure that new equipment (meters, regulators, valves, etc.) connected to the houseline are odorized. This odorization is necessary so that if there is a gas leak it is detectable by smell. When new MSA components are installed, they must be checked to ensure they are properly odorized. Based on recent experience, SCG found that there can be a decline in the intensity of the odorant at new installations. Therefore, SCG has moved to a more stringent application of odorant testing during MSA installations to enhance public safety. This requires additional odorization check time, which increases the cost of the work. This incremental safety requirement represents a TY2012 increase of $58,000 over the forecast base.

viii. New Environmental Regulatory Balancing Account

In her prepared direct testimony, Exhibit SCG-15, Ms. Lisa Gomez discusses a variety of new and proposed environmental requirements that SCG is required to address. In particular, the proposed new subpart W, 40 C.F.R. §98.230, to the Greenhouse Gas Mandatory Reporting Rule, 40 C.F.R. §98, will have a direct impact on gas distribution operations. *See* Mandatory Reporting of Greenhouse Gases: Petroleum and Natural Gas Systems, Proposed Rule, 75 Fed. Reg. 18607 (April 12, 2010). Under the conditions of this proposed rule, SCG will be required to annually report fugitive and vented methane emissions from natural gas distributions systems; annually inventory components; annually survey for leaks; and conduct other new activities. Compliance may require data collection beginning in January 2011 and the first report containing the expanded information would be due in March 2012. The cost to achieve compliance under the proposed conditions is estimated to be

$23,442,000 over the forecast base in TY2012. However, as discussed by Ms. Lisa Gomez, since there remains a degree of uncertainty about the specific compliance requirements, SCG is proposing a two-way balancing account for the expenses incurred. Please see the prepared direct testimony of Mr. Greg Shimansky, Exhibit SCG-34, for details of accounting treatment.

d. Cathodic Protection

Table SCG-GOM-11
Gas Distribution O&M Non-Shared Services
Field O&M - Cathodic Protection
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
d. Cathodic Protection Field	2,207	2,946	739

Left unprotected, buried steel pipelines will revert back to their natural state as an iron oxide (i.e. corrode). Corrosion on pipelines increases the potential for leaks, and can reduce the useful life of the pipelines. In addition to the application of coating and electrical isolation, cathodic protection (CP) is one method for mitigating external corrosion on steel pipelines. CP combats corrosion by imposing an electric current flow toward the surface of the pipeline, which keeps the pipeline negatively charged (cathodic) with respect to the surrounding soil. This results in reduced corrosion on the pipeline system. CP uses both magnesium anodes and rectifier stations to impose a negative charge on the pipeline. Additionally, test stations are installed to monitor the CP system and insulators are placed on the mains to isolate CP areas.

Necessary monitoring and evaluation activities for ensuring an effective CP system are discussed within the Asset Management section of this testimony (Section II.B.2b.). This workgroup addresses the resulting identified field maintenance requirements. CP maintenance work is generally completed either due to the observed condition of the system or in reaction to third-party actions. Maintenance work is necessary to replace anodes as they become depleted and no longer provide the level of protection required for the pipeline. Anode depletion is accelerated by drought conditions, as dry soil does not allow the current to travel as far and protect as much pipe. As drought conditions continue, anode installations and replacements will rise. In addition, CP maintenance work is often reactive to activities of municipalities, other utilities, and construction firms as they complete projects of street reconstruction, widening, or resurfacing; or sewer and water line maintenance and replacement. These projects often require SCG to excavate a job site and repair broken anode wires, replace test stations, or clear interference on the CP system.

Examples of maintenance activities performed within this workgroup include:

- Installing anodes.
- Clearing underground shorts created by two pipelines touching each other.
- Repairing or replacing broken wires to anodes or test stations.
- Raising test station lids as a result of the re-pavement of streets.
- Adding test points on pipelines.
- Installing insulators on mains and services.

Given that the need for CP maintenance as recorded to this workgroup is generally reactive and outside of SCG's control, to capture the variation that can occur within this activity SCG is forecasting expenses for this workgroup based on the five-year average spending for the period 2005 through 2009. This results in a decrease of $105,000 in TY2012 from the 2009 adjusted recorded base.

Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund CP activities in TY2012. These work elements are described below.

i. Federal Stimulus Funding

As previously noted, the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, provided federal stimulus funding to local and state agencies to construct mobility projects that bring value to the local, state, and federal economy. This Act apportioned funds to California for highways, local streets and roads, freight and passenger rail, port infrastructure, and transit projects. As stimulus funding projects are constructed in local streets and highways, SCG anticipates that this work will result in a greater number of CP facility valve lids being paved over. These lids will then have to be raised by SCG personnel in order for CP test wires to be accessed to perform compliance reads. A second issue associated with this type of construction is the potential for these test wires to be broken during the excavation phase of these projects. Facilities impacted include wires from rectifiers, magnesium anode beds, and isolated CP read locations. A third potential conflict is the possibility of creating short circuits in SCG's CP system due to interference from new third-party infrastructure located near gas lines. These conflicts will result in an increase of labor dollars to raise valve lids, repair broken wires, and clear short circuits. These requirements represent an incremental increase of $33,000 over the forecast base in TY2012.

ii. Pedestrian Access at Construction Sites

As noted previously, during hearings on SCG's TY2008 GRC, SCG entered into an agreement with DiRA to modify SCG's field practices providing for safer pedestrian access around construction

sites for disabled individuals. Since that agreement was signed SCG, working with DiRA, has identified materials and procedural changes that address DiRA's concerns. To effectively integrate these changes into daily operations requires the purchase of specialized barricades and ramps to be used at the construction site, additional field training on proper use and placement of these devices, and incremental preparation time at the job site. SCG will incur incremental costs in this workgroup to comply with these new procedures for set-up and tear-down time of this accessibility equipment. These new procedures will impact some of the CP maintenance work that obstructs access to sidewalks and/or driveways, such as installations and repair of read points, anodes, insulators, and valve lids. This incremental safety requirement represents an increase of $87,000 in TY2012 over the forecast base.

iii. Increased City/Municipality Requirements

As noted previously, local and state agencies continue to impose new and often more stringent operating conditions that can result in increased cost pressures to maintain the gas distribution system. A complete discussion of these challenges is provided in Section I.C. "Agency Requirements" of this testimony. Increasing permit costs and construction requirements, such as engineered traffic control plans, additional paving requirements, and a growing trend toward restricted working hours will increase SCG's expenses for anode installations, clearing of underground short circuits and interference caused by other structures, repair or replacement of broken wires to anodes or test stations, raising test station lids as a result of the re-pavement of streets, adding test points on pipelines, and installing insulators on mains and services. The additional funding required to address increased city/municipality requirements is $725,000 over the forecast base in TY2012.

e. Main Maintenance

Table SCG-GOM-12
Gas Distribution O&M Non-Shared Services
Field O&M - Main Maintenance
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
e. Main Maintenance	6,687	7,931	1,244

Main maintenance work is generally corrective in nature and is required to keep the natural gas system operating safely and reliably. The work in this workgroup is designed to meet federal, *i.e.*, 49 C.F.R. §192, and state, *i.e.*, CPUC General Order 112-E, pipeline safety regulations and to extend the

life of distribution main pipelines and related infrastructure. Main maintenance work is primarily comprised of five activities:

- Leak evaluation
- Leak repairs
- Franchise alterations
- Compliance maintenance
- Miscellaneous main maintenance

Main leak evaluation and repair work is generally completed to address public safety, infrastructure condition, and material failure. Main leaks in the gas distribution system are often identified through SCG's leak surveys, by field service personnel while completing other field work assignments, and via customer calls. In responding, SCG completes a process of identification and evaluation. Leaks are prioritized for ongoing field response based on a number of factors including location, concentration of gas, and hazard to the public and property. Federal and state pipeline safety regulations require operators to take immediate action to contain hazardous leaks and to repair them promptly. Non-hazardous leaks are prioritized based on their potential to become hazardous and are repaired within 15 months or re-evaluated until their classification changes. Main leak repairs generally require excavating in public and private property to determine the exact location of the leak and make repairs. This work often involves pavement or concrete cutting, excavating, and repairing of main pipe facilities, followed by backfilling the excavation, compacting the soil, and making permanent repairs to pavement and landscaping.

SCG holds numerous franchise agreements with the municipalities in its 20,000 square-mile service territory. These agreements, which outline the terms under which SCG utilizes the public right-of-way, require the relocation or alteration of SCG facilities if they conflict with municipality projects. Some typical projects that impact SCG facilities include street resurfacing, widening, or complete reconstruction. These projects can require maintenance activity by SCG ranging from raising valve lids and casings after they are paved over, to completely relocating SCG pipelines to facilitate street reconstruction. Other typical municipality projects include sewer and water pipeline maintenance, replacement or new installation. These projects can also require work by SCG to avoid a conflict with the municipalities' proposed construction that range from altering the elevation of segments of SCG pipelines in their present locations to relocating segments of pipeline or related facilities completely. Franchise work is a municipality-driven requirement. The impact to SCG can

vary significantly depending on available municipality funds, which are typically driven by economic conditions.

Compliance maintenance work is driven by public safety and governmental regulations. Activities of compliance main maintenance include:

- Patrolling high pressure supply lines to observe surface conditions for indications of leaks, construction activity by others, and miscellaneous factors affecting safety and operation.
- Repairing and/or installing high-pressure warning signs.
- Inspecting bridge crossings and spans for any signs of damage.
- Inspecting and maintaining valves to ensure they are operational.
- Clearing rights-of-way of brush and debris to ensure accessibility to facilities.

The miscellaneous main maintenance category consists of the following activities:

- Repairing damages to SCG pipelines.
- Raising or lowering SCG valve casings.
- Repairing damaged protective coating on mains due to construction activity by other entities.
- Repairing uneven paving related to SCG construction.

As outlined above, a variety of factors influence the level of spending on main maintenance in a given year. These factors include government regulations, public safety, municipality requirements, material failure, infrastructure, and economic conditions. Given the general variation in the drivers and the influence these have on the overall cost basis in this workgroup, a five-year average spending for the period 2005 to 2009 was used to forecast the base level of funding needed for TY2012. This results in a decrease of $25,000 in TY2012 from the 2009 adjusted recorded base.

Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund main maintenance activities in TY2012. These work elements are described below.

i. Federal Stimulus Funding

As noted previously, the American Recovery and Reinvestment Act of 2009 provided federal stimulus funding to local and state agencies to construct mobility projects that bring value to the local, state and federal economy. This Act apportioned funds to California for highways, local streets and roads, freight and passenger rail, port infrastructure, and transit projects. As stimulus funding projects are constructed in local streets and highways, SCG expects to see an increase in main leak repairs as a

result of increased survey work performed ahead of street improvements. The impact on main maintenance in TY2012 is $66,000 over the forecast base.

ii. Pedestrian Access at Construction Sites

As noted previously, during hearings on SCG's TY2008 GRC, SCG entered into an agreement with the DiRA to modify SCG's field practices providing for safer pedestrian access around construction sites for disabled individuals. Since that agreement was signed SCG, working with DiRA, has identified materials and procedural changes that address DiRA's concerns. To effectively integrate these changes into daily operations requires the purchase of specialized barricades and ramps to be used at the construction site, additional field training on proper use and placement of these devices, and incremental preparation time at the job site. SCG will incur incremental costs in this workgroup to comply with these new procedures for set-up and tear-down time of this accessibility equipment. These new procedures will impact some of the main maintenance work that obstructs access to sidewalks and/or driveways, such as leak repairs, relocations of pipe segments, or work on valve casings. This incremental safety requirement represents an increase of $33,000 in TY2012 over the forecast base.

iii. Los Osos City Sewer System

As noted previously, SCG's local management has been in contact with The City of Los Osos in San Luis Obispo County regarding their plans for installing a sewer piping system to replace the existing septic tank systems. This project will include the installation of 45 miles of sewer lines plus service laterals which will encompass the entire city, serving approximately 15,000 residents with construction continuing through the year 2013. Additional main maintenance work by SCG will be required to avoid conflicts with the sewer pipe installation. This additional work will range from altering the elevation of segments of main lines in their present locations, to relocating segments of pipe. The impact on main maintenance in TY2012 is $523,000 over the forecast base.

iv. Increased City/Municipality Requirements

As noted previously, local and state agencies continue to impose new and often more stringent operating conditions that can result in increased cost pressures to maintain the gas distribution system. A complete discussion of these challenges is provided in Section I.C. "Agency Requirements" of this testimony. Increasing permit costs and construction requirements, such as engineered traffic control plans, additional paving requirements, and a growing trend toward restricted working hours will increase SCG's expenses for main work such as leak repairs, franchise alterations, miscellaneous

maintenance, damages, and compliance maintenance. The additional funding required to address increased city/municipality requirements is $648,000 over the forecast base in TY2012.

f. Service Maintenance

Table SCG-GOM-13
Gas Distribution O&M Non-Shared Services
Field O&M - Service Maintenance
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
f. Service Maintenance	10,161	10,876	715

Service maintenance work is generally corrective in nature and is required to keep the natural gas system operating safely and reliably. The work in this workgroup is designed to meet federal, *i.e.*, 49 C.F.R. §192, and state, *i.e.*, CPUC General Order 112-E, pipeline safety regulations and to extend the life of the distribution service pipeline system. Service maintenance work is primarily comprised of the following four activities:

- Evaluation and repair of service leaks.
- Service alterations.
- Meter set assembly (MSA) alterations and meter guard replacements.
- Miscellaneous service and MSA maintenance.

Service leak evaluation and repair work is generally completed to address public safety, infrastructure condition, and material failure. Service leaks in the gas distribution system are often identified through SCG's leak survey program, by field service personnel while completing other field work assignments, and via customer calls. In responding SCG completes a process of leak evaluation and identification. Leaks are prioritized for ongoing field response based on a number of factors including location, concentration of gas, and hazard to the public and property. Federal and state pipeline safety regulations require operators to take immediate action to contain hazardous leaks and to repair them promptly. Non-hazardous leaks are prioritized based on their potential to become hazardous and are repaired within 15 months or re-evaluated until their classification changes. Service leak repairs generally require excavating in public and private property to determine the exact location of the leak and make repairs. This work often involves pavement or concrete cutting, excavating, and repairing of service pipe facilities, followed by backfilling the excavation, compacting the soil, and

making permanent repairs to pavement and landscaping. Leak evaluation and repair work is the primary cost driver within this workgroup.

SCG is required to alter its gas service lines for various reasons including customer requests and correcting unsafe conditions. Examples of correcting unsafe conditions include repairs due to earth movement, and conflict with substructures. Customers also request that their gas service lines be altered to accommodate property improvements. Such improvements to existing homes and businesses, which are often economy-driven, impact the service alteration work account.

When service alteration work is needed, MSA work is often required as well. Changes to meter location or size are required to facilitate construction, customer gas usage changes, or other changes to customer property. This workgroup includes expenses for these associated changes to the MSA as well as expenses to rebuild damaged MSAs, replace meter guards to protect MSAs susceptible to damage, and work to change, raise, or lower service stopcocks.

Work captured in the miscellaneous service maintenance account includes the following activities:

- Repairing facilities damaged by outside sources or natural causes, such as fire or rain.
- Removing abandoned service pipe.
- Repairing or replacing curb valves or meter boxes.

As outlined above, a variety of factors influence any one year's level of spending on service maintenance. These factors include government regulations, public safety, municipality requirements, material failure, infrastructure condition, and economic conditions. Given the general variation in the drivers and the influence these have on the overall cost basis in this workgroup, a five-year average spending for the period 2005 to 2009 was used to forecast the base level of funding needed for TY2012. This results in a decrease of $601,000 in TY2012 from the 2009 adjusted recorded base.

Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund service maintenance activities in TY2012. These work elements are described below.

i. Federal Stimulus Funding

As noted previously, the American Recovery and Reinvestment Act of 2009 provided federal stimulus funding to local and state agencies to construct mobility projects that bring value to the local, state and federal economy. This Act apportioned funds to California for highways, local streets and roads, freight and passenger rail, port infrastructure, and transit projects. As stimulus funding projects are constructed in local streets and highways, SCG expects to see an increase in service leak repairs as

a result of increased survey work done ahead of street improvements. The impact on service maintenance in TY2012 is $47,000 over the forecast base.

ii. Pedestrian Access at Construction Sites

As noted previously, during hearings on SCG's TY2008 GRC, SCG entered into an agreement with the DiRA to modify SCG's field practices providing for safer pedestrian access around construction sites for disabled individuals. Since that agreement was signed SCG, working with DiRA, has identified materials and procedural changes that address DiRA's concerns. To effectively integrate these changes into daily operations requires the purchase of specialized barricades and ramps to be used at the construction site, additional field training on proper use and placement of these devices, and incremental preparation time at the job site. SCG will incur incremental costs in this workgroup to comply with these new procedures for set-up and tear-down time of this accessibility equipment. These new procedures will impact some of the service maintenance that obstructs access to sidewalks and/or driveways, such as leak repairs, damages and alterations. This incremental safety requirement represents a TY2012 increase of $183,000 over the forecast base.

iii. Los Osos City Sewer System

As noted previously, SCG's local management has been in contact with The City of Los Osos in San Luis Obispo County regarding their plans for installing a sewer piping system to replace the existing septic tank systems. This project will include the installation of 45 miles of sewer lines plus service laterals which will encompass the entire city, serving approximately 15,000 residents with construction continuing through the year 2013. Additional service maintenance work by SCG will be required to avoid conflicts with the sewer pipe installation. This additional work will range from altering the elevation of segments of service lines in their present locations to relocating segments of pipe. The impact on service maintenance in TY2012 is $252,000 over the forecast base.

iv. Increased City/Municipality Requirements

As noted previously, local and state agencies continue to impose new and often more stringent operating conditions that can result in increased cost pressures to maintain the gas distribution system. A complete discussion of these challenges is provided in Section I.C. "Agency Requirements" of this testimony. Increasing permit costs and construction requirements, such as engineered traffic control plans, additional paving requirements, and a growing trend toward restricted working hours will increase SCG's expenses for many service maintenance activities that require work in the public right-of-way, such as leak repairs, alterations, and damages. The additional funding required to address increased city/municipality requirements is $675,000 over the forecast base in TY2012.

v. Aging Infrastructure - Replace Obsolete Regulators

In 2010, SCG identified regulators, excluding those without internal relief capabilities, which because of age, performance, or obsolescence should be targeted for replacement. These regulator replacements will begin in 2011 and are in addition to existing regulator change-out programs, such as the replacement of regulators without internal relief. To minimize the labor costs, the regulator identification and replacement work will be combined with other work requiring personnel to work on the MSA. The impacted work-types are MSA-related orders: riser replacements, stopcock changes, and small MSA rebuilds. Based on the criteria defining the obsolete regulators, it is estimated that 34% of the MSA-related orders will require a regulator change-out. The incremental funding required to replace these additional obsolete regulators is $159,000 over the forecast base in TY2012.

g. Field Support

Table SCG-GOM-14
Gas Distribution O&M Non-Shared Services
Field O&M - Field Support
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
g. Field Support	14,411	18,609	4,198

Recorded to this workgroup are a variety of support services necessary to successfully complete the daily O&M activities within Gas Distribution Operations. The primary components are:

- Field supervision.
- Clerical support.
- Dispatch Operations.
- Off production time.
- Materials support.

Field supervisory positions are critical to providing daily management of the frontline employees and inspecting contractors that work directly on the gas distribution system as well as interacting directly with customers, public agencies, and the general public. As described in Section I.B. “Overview of SCG Distribution System Operations and Organization”, SCG’s service territory is extensive, covering approximately 20,000 square miles stretching from Visalia in the north, to the Mexico border in the south and as far east as the California/Nevada border. Supervisors are responsible for providing daily work direction and inspecting contractor work at 51 operating bases

throughout the service territory. These employees also have on-call responsibilities to respond to off-hour emergencies such as gas line breaks, damaged gas facilities, and gas leak investigations. They are in a leadership role providing training, coaching, and mentoring to SCG's front-line employees and third-party contractors. These supervisors strive to ensure employees work safely, follow company procedures, deliver superior customer satisfaction, and build and maintain a safe and reliable natural gas delivery system.

Clerical support ensures that all maintenance projects are accurately reconciled and that work orders are documented and maintained properly in SCG's records. In addition, this support ensures the accurate record retention of local construction permits, maintenance work orders, customer requests, and many other critical functions. They are also responsible for maintaining payroll for the field and management workforce.

Dispatch Operations employees work in coordination with field supervision, field employees, technical planning, third-party contractors, cities, and counties. They utilize a combination of information technology systems and manual processes to distribute work to the SCG and contractor field workforce. The coordination with other departments and agencies is critical for the completion of field operations and maintenance work.

Off-production time refers to those hours that are paid while field employees are not actively involved in the operations and maintenance activities. Examples of such time include attending skills training classes. Employees attend training because they are new to their job, require operator qualification, ongoing refresher training, are promoted to a position requiring additional technical skills, or need additional training for new equipment, new technology, or changes in company policies or external regulations. Other labor hours recorded to Off-production time include participation in activities such as meetings on safety, customer satisfaction, general communications, completion of audits of base operations, and stocking trucks with tools and fittings. All Off-production activities are necessary to maintain a proficient and effective field workforce and meet regulatory requirements.

Materials support includes expenses for miscellaneous equipment and services which provide essential administrative and logistic assistance to all activities within the Field Operations and Maintenance workgroups discussed in Section II.B.1. above. It encompasses such items as general office supplies, business forms, pagers, cell phones, trash collection, miscellaneous contract services, and employee expenses.

Generally, the services provided within the Field Support workgroup are driven by the amount of field work to be completed, the need for contractor support, complexity of jobs, and the number of

employees. Field experience indicates that, as economic conditions improve, work levels tend to increase, resulting in the need for additional support services. Therefore, SCG's forecast of expense for this workgroup is driven by projections of future economic growth. In general, IHS Global Insight forecasts economic growth hitting a low in 2009, with 2010 marking a transitional year. It is projecting a rebound in employment growth through 2012, with forecasted employment in 2011 and 2012 near what was seen in 2005 through 2006. (See discussion in Section I.C. "Economic Conditions".) Given this projection, SCG forecasts expenditures in 2010 to remain constant at the 2009 adjusted recorded base level. However, by TY2012, given the projection for more favorable economic conditions, SCG forecasts costs to rebound to the five-year average spending for the period 2005 to 2009. This five-year average also reflects the fluctuation that can be experienced in this workgroup. This forecast methodology results in a $687,000 increase over the 2009 adjusted recorded base in TY2012.

Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund field support activities in TY2012. These work elements are described below.

i. Area Resource Scheduling Organization

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 scheduling advisors and managers are necessary to effectuate the use of these new technical and business process changes in the four operating regions. This new group is known as the Area Resource Scheduling Organization (ARSO). The additional funding requirement to support the new scheduling and dispatch organization is an increase of $459,000 to the forecast base in TY2012.

ii. Wireless Fees for Mobile Data Terminals (MDT)

Beginning in 2010, maintenance and inspection work will be dispatched to field technicians via MDT computers. In order to utilize the full capability that the MDT has to offer, the computer must be in constant communication with the host scheduling system. This will be accomplished through existing wireless networks within the service territory. Remaining online allows work to be dispatched to the crews in the field if the pre-assigned tasks are completed early or, conversely, reassigns work if an unexpected higher priority maintenance activity is encountered such as a report of a gas leak that must be investigated. Real-time connectivity between the field and the ARSO is

essential to gain efficiencies provided by the ability to adapt to changes in work priority and the identification of available resources near a given location. There are approximately 730 vehicles that will be equipped with wireless MDT computers. The funding requirement for the wireless fees is an increase of $290,000 to the forecast base in TY2012.

iii. Miscellaneous Increased Support Requirements

During the execution of many work elements, Dispatch Operations remains the hub among the field personnel, technical experts, contractor representatives, and city officials for communication, coordination, and scheduling of work. Because of incremental work elements projected within this GRC period, work requirements within Dispatch Operations will increase. Increasing work hour restrictions imposed by local municipalities, incremental work resulting from the availability of federal stimulus funds, and requirements to remove USA paint markings will create more phone calls between Dispatch Operations and field employees and/or with city officials. These field requirements are discussed in the Field Operations and Maintenance section of my testimony. The funding needed to address these incremental requirements is $23,000 over the forecast base in TY2012.

iv. Pedestrian Access at Construction Sites

As noted previously, during hearings on SCG's TY2008 GRC, SCG entered into an agreement with the DiRA to modify SCG's field practices providing for safer pedestrian access around construction sites for disabled individuals. Since that agreement was signed SCG, working with DiRA, has identified materials and procedural changes that address DiRA's concerns. To effectively integrate these changes into daily operations requires the purchase of specialized barricades and ramps to be used at the construction site, additional field training on proper use and placement of these devices, and incremental preparation time at the job site. SCG will incur incremental costs in this workgroup to comply with these new procedures for training of field technicians on setting up and dismantling this accessibility equipment. This incremental safety requirement represents an increase of $8,000 in TY2012 over the forecast base.

v. Support Training for New Technology

Through the OpEx 20/20 Program, new technology and processes are being developed and deployed to enhance SCG Distribution maintenance, inspection and construction field and office work processes. Throughout 2010, 2011, and 2012, Gas Distribution employees will require specialized training on those systems and processes related to the Maintenance and Inspection (M&I), Geographic Information Systems (GIS) and Construction solutions. (Additional details on the OpEx 20/20 Programs are included in the prepared direct testimony of Mr. Richard Phillips, Exhibit SCG-13.)

Beginning in 2012, construction work will be electronically dispatched to, and recorded by, field personnel via MDT. Presently, work is assigned in the form of paper work orders to the field crews. The crew leaves the base, executes the work, records the appropriate information on paper forms, and then returns to the base where he/she completes a paper timecard to record time to the correct cost center for the day's work. Clerical personnel then update asset records to reflect these activities. With the roll-out of the new technology, this work will be assigned, dispatched, and documented through electronic interface tools. Therefore, personnel involved with field clerical and dispatch work will require training for the new tools and work processes.

In addition, construction planning activities and management of job status will migrate to a new work management system. The existing work management and planning tools are being replaced with a more robust system which includes new design work elements and job cost estimating procedures. Thus, employees focused on the design and planning of the construction work also need to be trained on the new system.

Because construction work is core to system reliability and safe operations, it is imperative that the people performing the work are effectively trained on the new systems. Given that today's level of field staffing is just sufficient to perform the necessary distribution pipeline maintenance, inspection, and construction activities, additional overtime hours will be incurred by field employees to accommodate the training activities for the new technology systems. Based on approximately 1,000 employees attending nearly a week of training, the formalized training for this new technology will require an increase of $2,731,000 to the forecast base in TY2012.

h. Tools, Materials and Fittings

Table SCG-GOM-15
Gas Distribution O&M Non-Shared Services
Field O&M – Tools, Materials and Fittings
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
h. Tools, Fittings & Materials	8,620	10,145	1,525

Recorded to this workgroup is the purchase of small tools, small pipe fittings, miscellaneous pipeline materials, and miscellaneous installation materials used during construction and maintenance activities and those held in inventory as vehicle truck stock. These materials are necessary to

obtaining complete and safe work results. Included within each category of materials are items such as:

- Small tools – screw drivers, wrenches, etc.
- Small pipe fittings – couplings, ells, nipples, etc.
- Miscellaneous pipeline materials – bolts, stakes, pipe straps, traffic vests, etc.
- Miscellaneous installation materials – cold patch asphalt, pre-mixed concrete, etc.

Also recorded to this workgroup are expenses for the rental and laundering of uniforms.

The rate of consumption of these materials is highly influenced by construction activity, which in turn is often a reflection of economic conditions. Therefore, the rate of replenishment will vary from year to year. SCG's forecast of expense for this workgroup is driven by expectations of future economic growth. In general, IHS Global Insight forecasts economic growth hitting a low in 2009, with 2010 marking a transitional year. It is projecting a rebound in employment growth through 2012, with forecasted employment in 2011 and 2012 near what was seen in 2005 through 2006. (See discussion in Section I.C. "Economic Conditions".) Given this projection, SCG anticipates expenditures in 2010 to remain constant at the 2009 adjusted recorded base level. However, by TY2012, given the projection for more favorable conditions, SCG forecasts costs to rebound to the five-year average. This five-year average also captures the fluctuation that can be experienced in this workgroup. The forecast methodology results in a $1,492,000 increase over the 2009 adjusted recorded base in TY2012.

Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund tools, materials, and fittings in TY2012. These work elements are described below.

i. Safety Vest Replacement

Incremental to this base is a new California Department of Industrial Relations, Division of Occupational Safety and Health ("Cal/OSHA") safety requirement for traffic vests that will affect the Tools, Materials and Fittings funding requirements in TY2012. This change is the result of a revised American National Standard for High-Visibility Safety Apparel and Headwear (ANSI/ISEA 107-2004) standard that requires high visibility garments be made to different requirements. This new standard, adopted by the U.S. Department of Transportation, the California Department of Transportation ("CalTrans"), and Cal/OHSA, requires more square inches of background material as well as additional square inches of reflective material. Additionally, any new vests must not

compromise employee's safety in a gaseous environment. The impact to this workgroup in TY2012 is $33,000 over the forecast base.

2. Asset Management

Reviewed in this section of the testimony are activities and associated O&M expenses incurred in the evaluation of the condition of the distribution system. This includes maintaining many asset records, identification of corrective maintenance solutions, and coordinating with field personnel on completion and recording of operations and maintenance activities.

Table SCG-GOM-16
Gas Distribution O&M Non-Shared Services
Asset Management
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
a. Pipeline O&M Planning	6,777	7,123	346
b. Cathodic Protection	7,190	7,067	-123
Total	**13,967**	**14,190**	**223**

a. Pipeline Operations and Maintenance Planning

Table SCG-GOM-17
Gas Distribution O&M Non-Shared Services
Asset Management – Pipeline O&M Planning
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
a. Pipeline O&M Planning	6,777	7,123	346

SCG's Technical Planning Office provides many of the technical and administrative services needed for the successful and timely completion of the O&M activities discussed in Section II.B.1. above. This workgroup records the labor and non-labor costs for services provided by the Technical Planning Office. Activities preformed by this planning office include items such as:

- Identifying construction design requirements.
- Evaluating pressure specifications.
- Conducting pipeline planning.
- Providing project drawings
- Identifying material selection.

- Preparing work order estimates.
- Acquiring third-party contract services (e.g. paving, traffic control plan, and operated equipment).
- Obtaining permits for construction from city, county, state, and federal agencies.

The technical planning office also coordinates the region's emergency response efforts by managing the Gas Emergency Centers (GECs), which are located at each region headquarter facility. GECs are a region command center that is activated during a significant event (e.g. fire, earthquake, pipeline damage, customer outage) to support field operations with engineering, pipeline planning, mapping, logistics, and office resources that are vital in returning SCG facilities back to normal operations.

The Test Year 2012 forecast of expenses was determined after a review and evaluation of the 2005 to 2009 historical spending. In order to maintain the level of services offered today and remain consistent with the projected field operations, the 2009 adjusted recorded base was chosen to represent the base level of spending for 2012. Although O&M work requirements are anticipated to increase, which can result in increased administrative and technical services, these requirements can be addressed within the funding levels of the 2009 adjusted recorded base and an increase in TY2012 for the addition of four Field Environmental Compliance Specialists not reflected in the base forecast. These specialists are described below.

i. Compliance Specialist

As governmental agencies seek to protect the environment, their regulations are becoming increasingly complex and SCG is challenged to continue to meet its compliance obligations. (See the prepared direct testimony of Ms. Lisa Gomez, Exhibit SCG-15, for additional discussion on changing environmental regulations.) Distribution Operations employees must be well versed on pipeline construction, facility operations, hazardous materials, and hazardous waste handling regulations.

To ensure continued compliance with the changing laws, regulations, and rules, SCG is requesting the addition of four Field Environmental Compliance Specialists (one per distribution operating region). These Field Environmental Compliance Specialists will support daily compliance monitoring, recordkeeping, project environmental pre-screening, reporting, and implementation of compliance programs. They will also deliver training to field personnel and local management needed for new or modified compliance requirements. These positions will be located in the regional offices with direct operational responsibility for working with local management in proactively addressing

day-to-day environmental issues associated with the operating bases, and maintenance and construction activities. These activities include:

- Review of the condition of underground/aboveground fuel storage tanks at the operating base locations.
- Permitting and handling of hazardous materials and waste materials at construction sites.
- Meeting air quality standards both at the job site and base location.
- Monitoring storm water plans and best management practices at the job site and base locations.
- Supporting proper job-site monitoring to meet natural resource programmatic permit conditions.

The addition of these Field Environmental Compliance Specialists requires an increase in funding of $346,000 to the 2009 adjusted recorded base in TY2012.

b. Cathodic Protection

Table SCG-GOM-18
Gas Distribution O&M Non-Shared Services
Asset Management – Cathodic Protection
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
b. Cathodic Protection	7,190	7,067	-123

Without proper intervention, buried steel pipelines will revert back to their natural state as an iron oxide (corrode). Corrosion on pipelines increases the potential for leaks, and may reduce the pipelines' useful lives. In addition to the application of coating and electrical isolation, CP is one method for mitigating external corrosion on steel pipelines.

Activities recorded to this CP workgroup are for the inspection and evaluation of the CP system on SCG's steel distribution pipelines to ensure infrastructure integrity in accordance with state and federal regulations. These efforts are undertaken to maintain the longevity and performance of SCG's distribution steel pipeline system and are performed by system protection specialists responsible for maintaining compliance with 49 C.F.R. §192.465 (External corrosion control: Monitoring). Inspection and evaluation of the pipelines' CP system can include: checking rectifiers for proper operation, identifying location of interface bonds, evaluation of "short circuits", identifying locations for installation of anodes for continued pipe protection, and taking pipe-to-soil readings to

evaluate electric current levels. Based on the results of these monitoring activities, replacement, upgrade or alteration of CP system components may be planned.

These tasks are complementary to the field activities discussed within the previous testimony section II.B.1d. "Field Operations and Maintenance". The tasks outlined earlier are generally related to the subsequent maintenance of the CP system completed by field construction crews.

The Test Year 2012 forecast of expenses was determined after a review and evaluation of the 2005 to 2009 historical spending. Over the historical period, the cost basis for this workgroup has remained fairly stable. And, although capital expenditures are projected to increase in the near term, thus increasing the amount of the pipeline system placed under CP, the incremental increase will not result in a need to add resources in this area of system evaluation. Therefore, SCG is projecting the TY2012 requirements to be equal to the five-year average spending for the period 2005 to 2009. This results in a $123,000 decrease from the 2009 adjusted recorded base in TY2012.

3. Operations Management and Training

Table SCG-GOM-19
Gas Distribution O&M Non-Shared Services
Operations Management & Training
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
3. Operations Management & Training	7,772	12,151	4,379

This section includes costs recorded to the single workgroup "Operations Management and Training". The activities completed within this workgroup are operations leadership, field management, operations support, and field technical skills training; all of which are necessary for SCG's ability to provide customers with safe and reliable service.

Operations Leadership - Company leaders are responsible for setting the tone and direction of their organization. They provide a vision for the organization to succeed in meeting SCG's objectives. Gas Distribution's goal is to continue to provide safe and reliable services for its customers at the lowest reasonable cost. In order to succeed, this message must reach the over 1,600 Gas Distribution employees located throughout SCG's large and diverse service territory. Leadership must communicate and reinforce this goal and the passion for success through interactions such as regular dialog with managers, periodic dialog sessions with front-line supervisors and employees, participation in employee seminars, ongoing refresher training, and one-on-one employee meetings.

Field Management - Field management is responsible for overall management of the workforce dedicated to the planning and completion of gas distribution pipeline maintenance and installation activities. Field management includes tasks such as:

- Implementing programs focused on ensuring customer satisfaction and employee safety.
- Facilitating the acquisition and allocation of resources to ensure timely completion of work.
- Working with supervisors on scheduling conflicts.
- Reviewing compliance work for completeness.
- Providing consultation to pipeline contractors regarding job requirements and company procedures.
- Providing general leadership toward reaching company goals and/or individual performance management and improvements.

Operations Support - Operations support consists of a variety of general operational services necessary for the field operations' employees to complete their daily tasks. This support includes activities such as identifying, developing, implementing, monitoring, and enhancing Company policies, procedures, tariffs, technologies, and/or reports used by Gas Distribution. As SCG's business needs or regulatory requirements change, work methods are often modified and new guidance must be developed and communicated to ensure the workforce continues to provide safe and reliable service to customers.

Field Technical Skills Training - The operations field technical skills training team provides Gas Distribution with the training services described below. These services are necessary to make certain the company follows applicable regulations and standards and to help ensure the safety of the workforce and the public.

- Centralized and /or de-centralized technical skills training is provided to employees who are new to their jobs, require refresher training, have been promoted to positions requiring additional technical skills, receive new equipment or technology, or are being introduced to changes in regulations.
- Compliance-driven qualifications and certifications are conducted for employees who perform activities such as operating cranes or making steel welds or plastic fusion joints.
- The Operator Qualification Program is maintained by the training team, which is responsible for scheduling qualification activities, reviewing and auditing contractor qualification

programs, keeping qualification records, monitoring records for possible compliance issues, evaluating the program for any deficiencies or creating new efficiencies, and making changes to the program as needed.

- Instructional design services provided by the training group include updating existing training modules and developing new modules as needed in response to changes in standards, regulations, technology, or equipment. The field technical skills training team also explores new channels for training, such as online training or multi-media training aids.

In projecting the future expense requirements for these functions, SCG reviewed the 2005 through 2009 historical spending for this entire workgroup. For labor costs, the 2009 adjusted recorded expense represents the base level of leadership, management, support, and training personnel necessary to maintain current operations. The type of service provided by employees within the Operations Management and Training workgroup fluctuate from year to year – e.g. the number of training classes and the quantity of materials required for class assignments. For this reason, a historical average of the recorded non-labor expenditures for the years 2005 through 2009 was determined to be most representative of ongoing non-labor requirements. Using a five-year average as the foundation for the non-labor forecast results in an increase of $231,000 over the 2009 adjusted recorded base.

Added to this base are the following incremental work elements not reflected in the base forecast that are necessary to adequately fund Operations Management and Training needs, challenges, and activities in TY2012.

a. Gas Operations Services
b. Engineering Rotation Program
c. Technical Services Field Management
d. Formal Field Instructional Materials
e. Educational Aids and Equipment for Field Technical Skills Training
f. Video Embedded System Instruction

These work elements are described below.

a. Gas Operations Services

The work environment within Gas Distribution is increasingly influenced by, and evolving with:

- Changes in regulations.

- Additional local construction restrictions.
- Increases in work volume.
- An aging infrastructure.
- Introduction of new construction methods and/or technologies into office and field functions.
- A maturing workforce.

SCG's Gas Distribution operations continuously responds to these ever-changing business needs, and searches for improvements in its field operations that: improve operating procedures, enhance customer satisfaction, maintain system reliability, and/or ensure customer and employee safety. The Gas Operations Services (GOS) organization provides this support function for Gas Distribution. The GOS team works with the operating organizations in identifying, developing, communicating, providing the appropriate tools, materials and equipment, and educating field employees on changes in policies and procedures that will help the operations transition through changing business needs.

In order for SCG to continue to respond to the ongoing business changes, additional resources are forecast to be necessary for this operations support function. The section below provides information on these additional resources.

i. Traditional Support Resource Base

Gas Operations Services has traditionally supported the field operations by:

- Creating performance metrics and analyzing performance measure results, conducting operational audits, maintaining and refining legacy systems and technologies, and reviewing work processes to identify best practices and achieve process consistency across the vast service territory.
- Refining compliance data monitoring and maintenance systems and conducting compliance audits to ensure adherence to internal procedures and maintenance of compliance obligations.
- Reviewing resource utilization to confirm that resources dedicated to a process are used in the most optimal manner.
- Lending their expertise to troubleshoot operating issues that may result from institutional experience having left parts of the company due to employee retirements and the less-experienced replacements not having sufficient experience dealing with an aging infrastructure. They also lend their expertise for the implementation of new construction methods, dealing with technology that has reached the end of its useful life, or the increased number of large construction and maintenance projects.

Beginning in 2007, support activities not critical to daily operational safety were temporarily reprioritized, as a number of GOS's subject matter experts dedicated their time and expertise to various activities completed under the OpEx 20/20 Program. Some GOS team resources were dedicated full time to the OpEx 20/20 Program. In addition, given their unique blend of analytical skills and operational knowledge, other GOS support resources were from time to time engaged in: the development of the business case, software selection, identification of operational requirements, product design and testing, and various deployment efforts. Please refer to the prepared direct testimony of Mr. Richard Phillips, Exhibit SCG-13, for additional information on the OpEx 20/20 Program.

The funding requested here reflects the reassignment of many of these support resources back to their traditional functions as some of the phases of the OpEx 20/20 Program are completed. By TY2012, the expectation is that this resource base will again reflect the 2006 historical level. This results in a $1,093,000 increase in expense reported to this workgroup in TY2012 as compared to the 2009 adjusted recorded base.

ii. Support of New Technologies

The OpEx 20/20 Program introduces new procedures for completing work elements, new processes for communicating information, new technology for recording and extracting information, and access to data never available before to support business management. Given its designed support role, the GOS organization inherits a new responsibility for ensuring the longer-term success of integrating three key OpEx 20/20 solutions – Maintenance and Inspection, Construction Management, and Geographic Information System – into the business environment affecting nearly 1,600 Gas Distribution employees in their daily operations. In order to support the new technology and associated business processes implement by the OpEx 20/20 Program, GOS will require resources, in part to:

- Maintain a workforce that is proficient on the use of these new technology-based tools. GOS will work with the operating organizations to train new management users on optimizing these processes and the technology, and work with existing users to improve their proficiency on data management, review, and extraction. Furthermore, they will support local management in creating programs that enable the non-management employees to effectively and comfortably use these new tools in completion of their work. GOS will also train all new users on the new systems and processes.

- Monitor work flow processes and their relationship to the software applications. This includes validating that work methods are appropriately reflected in the software applications and also identifying changes that may be needed either in response to externally driven changes in business needs or internally identified process enhancements.
- Evaluate the software and technology for opportunities to extract greater value from new uses of the technology.
- Define enhancements to the applications as the business needs change. GOS will be help define these enhancements, work with Information Systems on the required application changes, and become fully engaged in the testing and implementation of changes.

In completing its objectives, GOS will need to work with the operating organizations to determine proficiency gaps that need addressing, clearly identify data requirements that support the business operations and determine methods for extracting this information from the new systems, and formulate reports addressing both standard and ad hoc informational needs.

This work is incremental and complementary to the traditional staff support efforts previously discussed. Data that the team will extract from these new information technology tools support the traditional operational review of procedures and processes. In contrast, the traditional business analysis may indicate a need for a process change which can then be coordinated with these technology specialists for incorporation into the systems design.

SCG anticipates the need for 1 to 2 analysts, advisors and/or project managers on average per region per application to address the services discussed above. This is an increase of $1,474,000 in TY2012 over the forecast base.

b. Engineering Rotation Program

SCG operates a large and complex natural gas distribution system, including transmission and storage facilities. To manage this system, SCG needs competent, knowledgeable engineers capable of handling many types of work such as network capacity analysis, pipeline facility design, construction inspection, and system master planning. There is a steep learning curve for new engineers recruited at SCG who are most often recent college graduates. The learning curve is steep because new engineers entering into this field not only have to become adept at applying their engineering discipline, they must also be knowledgeable about the ever-increasing regulations that govern the natural gas industry as well as the company's own internal policies. Most entry-level Engineers at SCG are hired into specific positions where they learn one functional area on the job with some formal training. They

stay in the position several years until opportunities become available in other areas of SCG. Other entry-level Engineers are hired into an Engineering Rotation Program.

The Engineering Rotation Program moves a few of the new recruits through different parts of the Company, providing them mentoring and a broader portfolio of engineering skills, thus accelerating their knowledge and understanding of operations. These individuals will be better prepared to make the safety-sensitive decisions that are required of them, which increase the value they bring to SCG, customers and the public.

In order to create this learning opportunity for a greater number of new recruits, SCG will be adding six new positions to the Engineering Rotation Program. This additional number of positions will allow the movement of new Engineers into departments such as the Operating Regions (four Distribution Regions, Transmission, and Storage) as well as departments within Gas Engineering (Engineering Analysis Center, Pipeline Integrity, Project & Construction Management, Pipeline Design, Engineering Design, and Measurement, Regulation & Control). Once Engineers complete the rotation program, they will fill behind Engineers moving into higher-level internal positions, leaving SCG to seek other opportunities, or retiring. To expand this development and mentoring program, SCG is requesting an increase of $390,000 over the 2009 adjusted-recorded base.

c. Technical Services Field Management

An additional Technical Services Manager position is required in response to changes in management oversight due to the recent efforts to increase the company and regional executive and management focus. This manager is necessary to provide greater local leadership and increased supervisory support, as well as implement more focused safety and customer satisfaction programs within the four operating region organizational structure of SCG. The policy testimony of Ms. Anne Smith, Exhibit SCG-01, provides additional discussion of the recent organizational changes.

Also, a vacant Technical Services administrative assistant position was filled in October 2009. This was an existing position that had been vacant for the first part of 2009. Since this position was added in late 2009, the funding requested here represents the full year effect of hiring this position.

These changes will result in an increase of $93,000 over the 2009 adjusted recorded base.

d. Formal Field Instructional Materials

Field maintenance and construction policies and procedures (Gas Standards) are often modified to reflect new regulatory requirements, changes in local enforcement laws, work process changes, and introduction of equipment and technology for completing field activities. As these

documents are modified to reflect changes in field operations, applicable training materials must be formally reviewed and revised to ensure the identified changes are fully integrated into an employee's learning experience. Furthermore, Operator Qualification evaluation materials must be formally modified, and testing materials must be formally updated. However, to date, SCG has relied upon the dedication of individual instructors to monitor the posting of procedural changes and informally incorporate these changes within their discussion materials. This informal process to training and evaluation has left formal materials incomplete. The lack of updated materials could lead to inadvertent oversights in training and jeopardize either employee or customer safety.

In late 2009, the Training department implemented a process to formally track revisions made to the numerous gas maintenance and construction field procedures with the intention of having instructional design experts systematically incorporate the changes into formal training materials. This formalized tracking of the standards facilitates a structured review of training and evaluation materials; and modification to these materials can now be made formally. Instructional design facilitates the development of new and updated training curricula supporting effective technical skills training of SCG's field employees. Assuming approximately 300 revisions to Gas Standards each year, an estimated 4,280 hours of instructional designer services will be required each year to incorporate Gas Standard changes into skill training and operator qualification materials, and to review and update formal test materials.

In addition to modifying current instructional materials, SCG anticipates the use of instructional design services in the development of new training modules. New training modules are routinely requested by field management (in response to conditions experienced in the field) or required to address new regulatory requirements. Currently, there are 36 backlogged requests for training materials, including classes for activities such as gas crew skills, planning, welding, cathodic protection, pressure control, instruments, and station operations. SCG plans to complete an incremental nine new training modules each year – addressing approximately 25% of the training module backlog each year.

Table SCG-GOM-20
Gas Distribution O&M Non-Shared Services
Hours Required for Instructional Design Services

Instructional Design Activity	Impacted Documents	Hours per Unit	Annual Hours
Training module maintenance	300	12	3,600
Operator Qualification document maintenance	30	8	240
Written test maintenance *	110	4	440
Total Document Modifications			4,280
New training module development	9	120	1,080
Total Hours per Year			**5,360**

* SCG maintains approximately 580 tests. The hours shown are to review and modify approximately 20% of these tests each year.

In total, these instructional design services result in an incremental increase of $536,000 over the forecast base for this workgroup.

e. Educational Aids and Equipment for Field Technical Skills Training

In order to provide training related to gas measurement, regulation, and instrumentation, certain props and equipment are needed to help students learn how to operate, maintain, and troubleshoot these systems. Also, new tools and equipment are being implemented in the field, which drives the need for new tools, educational aids, and equipment to be purchased for training classes. Approximately $186,000 is needed to purchase this equipment and related tooling over the next three years. This level of funding is expected to continue in future year as new technology and procedures are introduced, driving the need for additional props and equipment to supplement training. These educational aids and equipment will require an increase of $62,000 over the forecast base for this workgroup.

f. Video Embedded System Instruction

As SCG continues to leverage the usage of MDTs or laptops, computer-based training will increase. Traditional paper-based manuals are essential for reading in instructor-led courses; however supplementing these manuals with videos and computer-based training creates a more powerful learning experience. As new technology is rolled out, there are additional tools that can be utilized for videos and computer-based training that will help reinforce training, proper work habits, and safety.

Currently, SCG field employees primarily rely on traditional training, experience, and field manuals to perform various technical field pipeline-related tasks. This process has served the company well; however, in situations where a field employee is expected to perform a technical pipeline operation that might not be common in their day-to-day tasks, they must rely on their memory and written system instructions. When a field employee is not comfortable performing an infrequently used and/or complex pipeline task, he/she will typically contact the field supervisor and wait for assistance and guidance. This often results in delays and interruptions to the construction projects.

Video Embedded System Instructions (VESIs) will supplement the field binders and system instructions by refreshing training and reinforcing safe practices. With the new VESIs, field employees will no longer be forced to rely strictly on their memory, field manuals, and supervisor assistance to safely perform various technical tasks. The employee will be able to use his/her MDT to access the system instruction. A video embedded within the system instruction will also be accessible to demonstrate the proper, safe method to perform the task with a visual demonstration and narration. By reinforcing safe practices in the video, VESIs will help maintain SCG's high quality and safety standards.

Many experienced technicians are retiring and/or moving to other positions; hence, SCG's newer workforce and supervisors are less experienced. With the new VESIs, employees will have the confidence to complete their tasks safely without needing to rely solely on paper manuals or other personnel for guidance.

SCG expects to complete an average of 125 system instruction videos per year starting in 2012, at a cost of approximately $500,000 per year. In 2012, the funding required for VESI is estimated to be $500,000 over the forecast base for this workgroup.

4. Regional Public Affairs

Table SCG-GOM-21
Gas Distribution O&M Non-Shared Services
Regional Public Affairs
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
4. Regional Public Affairs	3,907	3,907	0

Regional Public Affairs' (RPA) primary focus is supporting field operations through its work with regional and local governments on issues regarding proposed regulations, permitting, franchises and emergency preparedness and response. RPA also informs officials at the county and city levels

about SCG issues that could affect customers. To a lesser degree, RPA serves as a point of contact in the communities SCG serves, educating stakeholders about SCG construction activities, customer programs, and services offerings, responding to customer and media inquiries, and resolving customer complaints.

RPA is involved in these activities because other departments within SCG do not specifically address operational issues or the information needs of elected officials and community groups. RPA has the relevant knowledge, experience, and established relationships to communicate directly and efficiently with local governments and community groups.

SCG projects zero increase over the 2009 adjusted recorded base for TY2012 funding requirements in Regional Public Affairs activities.

Regional Public Affairs Organization

The Regional Public Affairs Director is responsible for supervising the four Regional Public Affairs Managers to ensure that regional staff is consistently supporting operations, while addressing concerns and issues of local elected officials and community organizations, as well as their respective constituents, across SCG's four service regions. The Regional Public Affairs Director is further responsible for providing leadership and policy guidance to the Strategy Manager and Franchise and Fees Manager.

The Regional Public Affairs Managers oversee the Public Affairs Managers in four geographic regions. Each of these regions is managed by one Regional Public Affairs Manager. They provide leadership and policy guidance to their direct reports.

The Public Affairs Managers serve as the primary company representative to the 226 municipalities within 12 counties of southern California. In addition, within a large city often there are multiple communities with unique political, economic, and demographic characteristics. For example, within the city of Los Angeles, Hollywood and San Pedro are communities. This holds true for unincorporated communities within a given county, such as East L.A. and Rowland Heights in Los Angeles County. Public Affairs Managers engage with these cities and communities so that field operations can complete necessary work in a timely and cost-effective manner. There is also one Governmental Affairs Manager who serves as the primary liaison between SCG and the County and City of Los Angeles on operational issues.

The Strategy Manager primarily prepares strategies, action plans, and informational materials for the RPA managers' use in working with public agencies on issues such as operational activities,

natural gas price increases, energy efficiency, utility services and safety, proposed fee increases, and ordinance changes.

The Franchise and Fees Manager is primarily responsible for timely negotiation of franchise agreements with municipalities within SCG's service territory and for securing cost effective outcomes for both ratepayers and the Company.

RPA possesses in-depth and unique knowledge about the local governments and communities for which they are responsible. Working closely with distribution operations and other business units at SCG, RPA develops solutions to a broad range of issues experienced in the service territory. Following is an overview of key RPA activities.

Supporting Operations by Working with Governments

In order to achieve SCG's goal of maintaining a safe and reliable system at the lowest reasonable cost, RPA works with local governments on issues including proposed regulations, permitting, distribution and transmission construction, maintenance and relocation activities, and emergency preparedness.

a. RPA promotes local regulatory uniformity throughout SCG's service territory on matters affecting distribution operations by engaging in education, conflict resolution, and issue clarification with governments where existing or proposed local ordinances or regulations may conflict with state laws, regulations, or franchise agreements, or impose unnecessary costs on SCG operations and ratepayers. This is a major focus for RPA as cash-strapped local governments are increasingly proposing new ordinances, enacting new fees or raising existing ones, modifying general plans or zoning rules, and modifying traffic control requirements.
b. RPA also coordinates and resolves local government permitting requirements by helping to obtain unique and difficult-to-negotiate locally-mandated permits that enable operations to construct, maintain, replace, or relocate facilities in a timely, cost-efficient manner, thereby maintaining SCG's high level of reliability.
c. In addition to supporting operations by working with governments, RPA coordinates SCG's operational activities with other utilities by participating in inter-utility coordinating committees. Meeting regularly with electric, cable and telephone utilities to coordinate activities in the public right-of-way, RPA helps minimize street-cut activities, which decreases the inconvenience of street closures, increases public safety, and reduces operational costs.
d. RPA plays a critical role in coordinating emergency planning and response activities between SCG and the cities and counties in SCG's service territory. RPA serves as a member of the Los

Angeles, Orange, and San Bernardino County emergency operations centers (EOCs), as well as the Los Angeles City EOC. RPA participates in EOC drills and is required to report to these EOCs during an emergency. RPA is on call for this duty 24 hours a day, seven days a week.

RPA similarly performs a vital function in SCG's internal EOCs. In the event of an emergency that could impact the system, designated RPA personnel are deployed to SCG's central EOC and regional GECs to provide support to operations and to city and county EOCs.

In addition, RPA hosts a number of "first responder" workshops each year, bringing together fire and police personnel for briefings on SCG's pipeline system, system safety, and system security issues.

e. RPA also regularly provides elected officials with information – both proactively and in response to inquiries – about pending operational and regulatory matters that could impact customers, planned or proposed rate changes, and utility programs and services. By informing elected officials, RPA enables them to share critical information with their constituents, thereby allowing those constituents to realize the full benefit of SCG's service.

<u>Supporting Operations by Working with Communities</u>

Supporting community organizations within the service territory, RPA provides information about SGC pending operational matters, rates and program offerings, responds to customer and local media inquiries, and resolves customer complaints.

a. RPA advises community groups, chambers of commerce and businesses about pending operational and regulatory matters that could affect customers, planned or proposed rate changes, energy efficiency and conservation, and customer assistance programs. When stakeholders are well-informed about SCG's activities, services and programs, they can realize the full benefit of utility services. Furthermore, these stakeholders can share this critical information with their constituents so they too are prepared and informed.

b. Although the Media and Employee Communications department has primary responsibility for interacting with the news media, RPA's presence in the field and knowledge of local issues sometimes puts RPA personnel on the front line as the company's spokesperson when a media representative is not immediately available and newsworthy events occur. In this capacity, RPA presents company positions, answers media inquiries, and provides important information to customers and customer groups.

RPA is further responsible for responding to ratepayer concerns that have escalated to public officials or that involve community groups. Each year, RPA must resolve billing and service complaints, big and small.

III. O&M SHARED SERVICES

A. Introduction

The majority of expense requirements in direct support of SCG's Gas Distribution operations are discussed within the NON-Shared Services portion of this testimony. However, there are a few activities for which expenditures are incurred on behalf of both SCG and San Diego Gas & Electric Company (SDG&E), and are therefore considered "Shared Services". These activities fall under the categories of: Operations Leadership and Operations Technical Support. Activities completed within these categories are necessary for the Company to provide customers with safe and reliable service.

SCG is requesting the Commission adopt its TY2012 forecast of Gas Distribution Shared Service total booked costs of $1,155,000. This increase of $34,000 over the 2009 adjusted recorded base is driven by a minor change in the allocation method for leadership services. Table SCG-GOM-22 below summarizes the funding requirement presented within this testimony and the allocations to the sister utility.

Section III.B. reviews each shared service cost center including: services rendered, cost centers included, forecasting assumptions, changes in spending, and cost allocation methodology. Also addressed is a functional discussion of the allocations received from the sister utility.

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Table SCG-GOM-22
Gas Distribution O&M Shared Services
O&M Shared Services Showing Summary
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
Incurred Costs (100% Level)			
1. Operations Leadership	294	349	55
2. Operations Technical Support	623	611	-12
3. USS Billed to CCTR	0	0	0
Incurred Costs Sub-Total	917	960	43
Allocations Out To SDG&E			
1. Operations Leadership	39	50	11
2. Operations Technical Support	21	18	-3
3. USS Billed to CCTR	0	0	0
Allocations Out To SDG&E SubTotal	60	68	8
Allocations Out To CORP SubTotal	0	0	0
Allocations Out To Unreg SubTotal	0	0	0
Retained by SCG			
1. Operations Leadership	255	299	44
2. Operations Technical Support	602	593	-9
3. USS Billed to CCTR	0	0	0
SCG Retained Sub-Total	857	892	35
Billed-In From SDG&E	264	263	-1
SCG Book Expense	**1,121**	**1,155**	**34**

B. Summary of Shared Services Categories

1. Operations Leadership Services (Cost Center 2200-0431)

Table SCG-GOM-23
Gas Distribution O&M Shared Services
Operations Leadership
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
Incurred Costs (100% Level)			
1. VP Gas Trans & Distr Operations	294	349	55
Allocations Out To SDG&E			
1. VP Gas Trans & Distr Operations	39	50	11
Allocations Out To CORP SubTotal	0	0	0
Allocations Out To Unreg SubTotal	0	0	0
Retained by SCG			
1. VP Gas Trans & Distr Operations	255	299	44
Billed-In From SDG&E	0	0	0
SCG Book Expense	**255**	**299**	**44**

Company officers are responsible for setting the tone and direction of their organization. They provide a vision for the organization to succeed in meeting the combined utilities' objectives. Gas Distribution's goal is to continue to provide safe and reliable services for their customers, at the lowest reasonable cost. In order to succeed, this message must reach thousands of employees in a large and diverse service territory. Leadership must communicate and reinforce this goal and the passion for success through such interactions as regular dialog with managers, periodic dialog sessions with front-line supervisors and employees, participation in employee seminars, and one-on-one employee meetings.

Recorded to this SCG cost center are the salary and employee expenses for the Vice President and administrative support. Also recorded to this cost center are non-labor expenses incurred in daily support of the organization (e.g. mileage, meals, travel and accommodations within the service territory and for participation in industry associations, general office supplies, communications equipment and fees, and periodic operational research studies).

The Test Year 2012 forecast of incurred expenses was determined after a review and evaluation of the 2005 to 2009 historical spending. This cost center has been used to record the costs for services of the Vice President and his assistant. Historical variation in labor charges to the Vice

President's cost center is due to the Company assignment of the employees holding the positions. Prior to 2009, reported costs represented the expenses of the administrative assistant who was a SCG employee and the Vice President, an SDG&E employee. Effective 2009, the administrative position is held by an SDG&E employee, and the Vice President is a SCG employee. Due to changes in employee reporting relationships, the 2009 adjusted recorded base is the most accurate representation of labor funding required for the Vice President's cost center. It is anticipated that the 2009 reporting relationships will be maintained into this rate case cycle. The expected non-labor spending for this cost center is anticipated to follow the five-year average profile. The variation shown over time is representative of the variety of costs that are recorded to these leadership cost centers in support of the entire operations – e.g. special operational studies, engineering review studies, and travel for representation at industry conferences. The five-year average was chosen as the forecast methodology to best capture this potential variation likely to occur over this rate case cycle.

While the services provided in this cost center remained unchanged from the base year, the percent allocation has been modified to reflect the broader scope of responsibilities for this cost center. In April 2010 the oversight role included not only the distribution function, but also added the customer services function. The allocation method was modified to reflect oversight of services that benefit customers, the general management of the pipeline asset, and leadership to the entire employee base. These three factors are represented by the relative ratio of residential customers, miles of transmission and distribution main pipelines, and number of employees. Each one of these factors has been assumed to have equal influence in the allocation of costs.

Table SCG-GOM-24
Gas Distribution O&M Shared Services
Derivation of Allocation Methodology - Cost Center 2200-0431
(Shown in Thousands 2009 Dollars)

Concept	Source	SCG	SDG&E	Total	% SCG	% SDG&E
Gas Residential Customers	**2009 Annual Average**	**5,476,875**	**812,174**	**6,289,049**	**87.09%**	**12.91%**
Miles of Dist. Main	2009 FERC Form 2	47,651	8,345	55,996	85.10%	14.90%
Miles of Trans. Main	2009 FERC Form 2	3,989	246	4,235	94.19%	5.81%
Total Miles of Main		**51,640**	**8,591**	**60,231**	**85.74%**	**14.26%**
Full-time Workforce Count	**HR Employee Listing**	**3,443**	**677**	**4,120**	**83.57%**	**16.43%**
Weighted Concepts	**Equal weights**				**85.46%**	**14.54%**

Equal weighting of Customers, Miles of Main and Workforce: (33.33% * 87.09%) + (33.33% * 85.74%) + (33.33% * 83.57%) = 85.46%.

Incurred expenses forecast for SCG TY2012 for this cost center is $349,000. This is a $55,000 increase from the 2009 adjusted recorded base, a result of the averaging forecast methodology selected for non-labor expense. The resulting booked expense for SCG, (the amount after allocations to SDG&E) is an increase of $44,000 over 2009 adjusted recorded base.

2. Operations Technical Support (Cost Center 2200-2023)

Table SCG-GOM-25
Gas Distribution O&M Shared Services
Operations Technical Support
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	TY2012 Estimated	Change
Incurred Costs (100% Level)			
1. Gas Field Technologies	623	611	-12
Allocations Out To SDG&E			
1. Gas Field Technologies	21	18	-3
Allocations Out To CORP SubTotal	0	0	0
Allocations Out To Unreg SubTotal	0	0	0
Retained by SCG			
1. Gas Field Technologies	602	593	-9
Billed-In From SDG&E	0	0	0
SCG Book Expense	**602**	**593**	**-9**

This organization is responsible for developing, reviewing, and enhancing gas distribution field operations, maintenance, and pipeline installation practices and procedures. This effort includes the identification, testing, and introduction of new tools for field use to either improve work operating efficiency and/or safety of operation. The department maintains over 280 practices and procedures for operations and maintenance of the distribution pipeline system (SCG = 179, SDG&E = 101). It is responsible for the ongoing review of these documents and makes modifications as necessary to address safety concerns, changes in regulations, changes in specifications of tools and equipment, and changes in pressure ratings of materials and equipment. Finally, employees within the department work with Underground Service Alert and field operations on practices to avoid inadvertent third-

party damages to the underground pipeline system. Costs recorded to this cost center include salaries and reimbursable expenses for the manager and supporting technical experts, salaries of employees supporting general administration and recording keeping, and non-labor expenditures for testing materials and limited purchase of tools.

The Test Year 2012 forecast of incurred expenses was determined after a review and evaluation of the 2005 to 2009 historical spending. There are no anticipated changes in the labor support services of this organization and therefore TY2012 labor expenditures are forecasted to remain constant with the 2009 adjusted recorded base. The non-labor forecast is anticipated to follow the five-year average spending. This longer-term average best reflects the varied need in operations materials and supply requirements from year to year. Thus, incurred expenses forecast for SCG TY2012 in the Field Technologies cost center are $611,000. This is a $12,000 decrease from the 2009 adjusted recorded costs associated with the averaging of non-labor requirements.

Sharing of services from this cost center had been limited to the supervisors' time and their associated non-labor. All other costs reported to this cost center are for the benefit of SCG exclusively. Therefore, the billing allocations have been established based on the ratio of SCG and SDG&E employees within this workgroup as it applies only to the supervisory expenditures. The resulting allocation to SDG&E is 2.86% of costs billed to this cost center. The resulting booked expense is a decrease of $9,000 from the 2009 adjusted recorded base due to the averaging methodology used to forecast non-labor expenses.

3. <u>Allocations from SDG&E Gas Distribution Function</u>

Billed from SDG&E to SCG Gas Distribution for TY2012 is $263,000. It represents services from the office of the Vice President representing administrative support services ($94,000) a reduction of $1,000 due to a minor shift in allocation methodology. In addition, it represents 100% of the cost for two SDG&E employees who are dedicated support for SCG field operations ($169,000) – paving inspection and environmental compliance. The position of Paving Inspector is responsible for monitoring and coordinating contractor paving activities related to SCG construction projects in Inland Region. This includes coordinating schedules for large paving projects with public municipalities, reviewing contractor invoices for accuracy on billings, providing quality review of contractor installation to meet desired company standards, and ensuring schedule deadlines are met. The second position supports the company's compliance with environmental regulations -- air and water quality, hazardous materials/waste handling, land permitting, and cultural resources. This position will manage the handling and transportation of hazardous materials/waste, oversee the above- and

underground storage tank maintenance compliance programs, support the district's compliance with local, state, and federal standards for operations (maintaining records, completing self audits, meeting with agency officials on site visits), and provide general support to the district management on general environmental concerns/policies/regulations. To maintain the current service offerings, labor and non-labor expenses were projected to remain constant at the 2009 adjusted recorded base levels.

IV. CAPITAL

A. Introduction

The driving philosophy behind SCG's capital plan is to provide safe, reliable delivery of natural gas to customers at the lowest reasonable cost. SCG installs new pipeline mains, service lines, and MSAs to meet the needs of the growing population in the service territory. To ensure reliability and safety, SCG makes a variety of other capital improvements including pressure betterment projects to improve areas of low pressure, pipeline renewals to replace deteriorated pipelines or obsolete equipment, installations and replacements of cathodic protection systems and the purchase of electronic monitoring devices for pressure tracking. Other improvements include pipeline relocations to accommodate public infrastructure improvements such as street and highway widening, and relocations caused by the construction of new water, sewer, and electric facilities. To accomplish these activities, SCG continuously monitors the condition of over 97,400 miles of main and service pipelines. By using technology and the professional judgment of experienced, skilled, and well-trained employees, SCG utilizes capital in the most prudent, responsible manner consistent with local, state, and federal regulations.

In preparing the forecast for capital expenditures, SCG Gas Distribution Operations reviewed historical spending levels and developed an assessment of future requirements. This analysis entailed a review of the historical 2005 to 2009 spending and consideration of the underlying cost drivers to determine if a historical pattern of spending should be expected to continue into the future. Gas Distribution also evaluated future work requirements that were incremental to levels of historical spending and necessary to maintain the safe and reliable operations of the distribution system. Thus, the forecasting methodologies varied depending on the type of activity being analyzed and the expectations of future system needs. These methods included:

- Forecast of future spending based on historical averages.
- Forecast of future spending based on historical growth and estimated future growth.
- Forecast of project-specific development based on identified projects or materials.
- Combination of project-specific justification as well as analysis of historic spending.

Thus, SCG's Gas Distribution capital expenditure forecasts are rooted in a historical review of spending adjusted, where appropriate, for elements of new work or changes in operating conditions which would not have been reflected in the past spending patterns. In his prepared direct testimony, Mr. Richard Phillips, Exhibit SCG-13, describes an effort undertaken by SCG to introduce new systems and processes into the field organizations to improve operational efficiency in the Gas Distribution capital construction process. This effort will change the field business processes for completing construction planning, estimating and reconciliation activities which are not reflected in historical spending. Therefore, in many instances the base forecast (e.g. historical averages) for a category of capital spending has been reduced to reflect the anticipated reduction in operational expenditures that will be achieved by the introduction of the new technology and business processes. Since these technology solutions are still to be implemented, an approximation of the distribution of these cost reductions was established. These reductions were applied to the capital categories where the process changes have the most material impact. The level of the cost reduction was determined by a proportion spread of the benefits identified by Mr. Richard Phillips. The discussion of each capital request clearly identifies those categories where cost reductions (e.g. efficiencies) have been incorporated. For convenience, the annual amounts for years 2010, 2011, and 2012 are summarized in Table SCG-GOM-26 below. The result is that funding traditionally spent in one area of operations can now be reallocated to other priority work within SCG. From the customer perspective, capital expenditures might remain at historical levels, however, new work elements are being addressed within this overall expenditure.

Table SCG-GOM-26
Gas Distribution Capital
Capital Expenditure Reductions
(Shown in Thousands 2009 Dollars)

Capital Categories	2010	2011	2012
New Business	(411)	(794)	(1,332)
Pressure Betterment	(56)	(128)	(234)
Supply Lines	(13)	(29)	(53)
Main Replacement	(263)	(453)	(728)
Service Replacement	(202)	(312)	(433)
Regulator Stations	(36)	(77)	(141)
Freeway	(12)	(22)	(40)
Franchise	(55)	(105)	(187)
Field Capital Support	-	-	(1,230)
Grand Total	**(1,048)**	**(1,920)**	**(4,378)**

In summary, Gas Distribution is requesting the Commission adopt its forecast for capital expenditures of $187,825,000, $224,217,000 and $212,576,000 in 2010, 2011 and 2012, respectively. (See Table SCG-GOM-27 below.) The primary factors influencing the three years of capital forecast are environmental compliance requirements for which SCG is seeking two-way balancing account treatment and anticipated increases in new business-related activity. A discussion of these funding requirements is presented in Section IV.B. of this testimony.

Table SCG-GOM-27
Gas Distribution Capital
Capital Expenditures Summary
(Shown in Thousands 2009 Dollars)

Category Description	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
1. New Business	15,310	31,395	37,945	43,854
1. 29 Palms Marine Base	0	2,800	10,200	4,800
2. Pressure Betterment Projects	10,992	10,936	13,306	13,200
3. Supply Line Replacements	1,953	3,180	3,164	3,139
4. Main Replacements	35,696	32,063	31,873	31,598
5. Service Replacements	12,000	11,639	11,529	11,408
6. Main & Service Abandonments	2,858	4,022	4,022	4,022
7. Regulator Station Projects	3,864	6,319	7,186	7,424
8. Cathodic Protection	3,947	4,192	4,328	4,464
9. Pipeline Relocations - Freeway	2,219	2,207	2,196	2,179
10. Pipeline Relocations - Franchise	8,887	9,260	9,477	9,660
11. Mobile Home Parks	4	67	67	67
12. Other Distribution Capital Projects	2,769	3,448	3,448	3,448
12. Meter Guard Installations	892	984	1,097	1,210
13. Meters and Regulators	20,413	24,797	26,219	31,016
14. Equipment / Tools	1,208	2,193	2,253	1,393
14. New Environmental Regulatory Balancing Account	0	0	15,700	0
15. Field Capital Support	35,741	38,323	40,207	39,694
Total Capital	**158,753**	**187,825**	**224,217**	**212,576**

B. Detailed Account Descriptions

This section provides, by activity, a description of the specific work to be completed, the benefits of such work, the forecast methodology, and expected expenditures. These expenditures are

necessary to maintain regulatory compliance and the continued safe and reliable delivery of natural gas.

1. New Business Capital (Budget Codes: 151-161, 165, and 166)

Table SCG-GOM-28
Gas Distribution Capital
New Business
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
1. New Business	15,310	31,395	37,945	43,854
1. 29 Palms	0	2,800	10,200	4,800
Total	**15,310**	**34,195**	**48,145**	**48,654**

This work category provides for changes and additions to the existing gas distribution system to connect new residential, commercial and industrial customers. This includes installations of gas mains and services, MSAs, and the associated regulator stations necessary to provide service to the customer. The materials cost of meters and regulators are addressed under work category "Meters and Regulators".

New Business expenditures were based on the projected new meter sets added to the gas distribution system. By way of reference, the table below shows the quantity of new meter sets SCG installed in the period 2005 to 2009.

Table SCG-GOM-29
Gas Distribution Capital
New Business Meter Installation History

Year	No. of Meters
2005	81,473
2006	84,613
2007	65,286
2008	45,835
2009	31,828

Although declining in absolute values, SCG still continues to experience new meter growth. Based on Global Insights projections of improved economic conditions (see Section I.C. "Economic Conditions"), SCG is forecasting an increase in the rate for meter installations. The table below shows SCG's new meter installation forecasts for the years 2010 to 2012.

Table SCG-GOM-30
Gas Distribution Capital
New Business Meter Installation Forecast

Year	No. of Meters
2010	45,526
2011	55,496
2012	64,799

For additional details on the forecast of customer meter sets please refer to the prepared direct testimony of SCG Customers witness Mr. Scott Wilder, Exhibit SCG-30.

The base forecast for expenditures was developed using the projected number of new meter sets times the cost per meter set. The cost per meter set 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 five-year average cost per meter (2005 – 2009) in deriving the forecast for new business installation costs.

In addition to the forecasted base funding requirement, the final forecast incorporates the following three elements not included in the base forecast:

The introduction of new information systems technology and associated changes in business processes are anticipated to improve operational efficiency. Therefore, this foundational forecast of capital expenditures must incorporate these changes. This forecast includes efficiencies of $411,000, $794,000, and $1,332,000 in 2010, 2011, and 2012, respectively. (See Section IV.A. "Capital Introduction" for more discussion on this efficiency gain.)

a. In accordance with CPUC Rules 20 and 21, new customers who provide their own trench receive reimbursement for this contribution. The estimate of expenditures in this budget category includes reimbursement costs based on the five-year average (2005 - 2009) as a percentage to total new business construction costs. The forecast includes reimbursement costs of $3,313,000, $4,004,000, and $4,628,000 in 2010, 2011, and 2012, respectively.
b. The budget category includes the costs of a very large project to install main and services to the Marine Corp Air Ground Combat Center in Twenty-nine Palms, California. A majority of the estimated cost for this project will be collected from the customer. A total of $17,800,000 is anticipated to be spent on this project ($2,800,000, $10,200,000, and $4,800,000 in 2010, 2011, and 2012, respectively). $11,500,000 of this will be collected from the customer. The job is anticipated to be completed in the second quarter of 2012.

In summary, the annual cost for this work category is forecasted to be $34,195,000, $48,145,000, and $48,654,000 in the years 2010, 2011, and 2012, respectively.

2. Pressure Betterment Projects Capital (Budget Code: 251)

Table SCG-GOM-31
Gas Distribution Capital
Pressure Betterment
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	TY2012 Estimated
2. Pressure Betterment	10,992	10,936	13,306	13,200

This work category records expenditures for gas distribution pressure betterment projects performed on a continuing 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.

Pressure Betterment projects are necessary to maintain reliable service to existing customers as new load is added to the gas distribution system. 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.

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. These projects typically involve installing new mains, and when necessary, regulator stations or upgrading existing mains to higher pressure.

For the year 2010, SCG has identified some of the necessary system requirements and has determined there will be no incremental increases to the 2009 adjusted recorded base 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.

Added to this forecast was a $777,000 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 capital cost increase to be $777,000 for each year 2011 and 2012. Please refer to the prepared direct testimony of Ms. Lisa Gomez, Exhibit SCG-15, for more information on the new permit requirements.

Finally, 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 $56,000, $128,000, and $234,000 in 2010, 2011, and 2012, respectively. (See Section IV.A. “Capital Introduction” for more discussion on this item.) Overall, the capital request in this category for years 2010, 2011 and 2012 is $10,936,000, $13,306,000 and $13,200,000, respectively.

3. Supply Line Replacements Capital (Budget Code: 267)

Table SCG-GOM-32
Gas Distribution Capital
Supply Line Replacements
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
3. Supply Lines	1,953	3,180	3,164	3,139

This work category includes expenditures to replace high-pressure distribution pipelines, known at SCG as supply lines.

The distribution supply line system is comprised of approximately 3,400 miles of pipeline constructed between the early 1920s and the present that range in diameter from 2-inch to 30-inch. These supply lines normally operate at pressures higher than 60 psig. Gas pressure from these lines is reduced to 60 psig or less through district regulator stations to service the distribution system.

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 the 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. In some cases, replacement criteria focus primarily on pipe age and population density due to potential risk to public safety. In other cases, supply line replacements address lines of lower risk to public safety but that could potentially have a major impact on service continuity to customers in geographically isolated areas.

SCG currently has identified eight projects totaling approximately $13.4 million to replace deteriorating supply lines over this rate case cycle. 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 five-year 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 these new operating efficiencies. This forecast includes efficiencies of $13,000, $29,000, and $53,000 in 2010, 2011, and 2012, respectively. (See Section IV.A. "Capital Introduction" for more discussion on this item.) Overall, the capital request in this category for years 2010, 2011 and 2012 is $3,180,000, $3,164,000 and $3,139,000, respectively.

4. Main Replacements Capital (Budget Codes: 252, 253, and 255)

Table SCG-GOM-33
Gas Distribution Capital
Main Replacements
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
4. Main Replacements	35,696	32,063	31,873	31,598

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. These 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.

These 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.

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. In addition, 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. (See Section IV.A. "Capital Introduction" for more discussion on this item.)

Additional main replacement funding required in response to the new federal mandated regulations on distribution pipeline integrity, known as the Distribution Integrity Management

Program (DIMP), is addressed in the prepared direct testimony of Mr. Raymond Stanford, Exhibit SCG-05.

In summary, the annual cost to complete this routine main replacement work is forecasted to be $32,063,000 $31,873,000 and $31,598,000 in the years 2010, 2011 and 2012, respectively.

5. Service Replacements Capital (Budget Codes: 256, 257, 258, and 260)

Table SCG-GOM-34
Gas Distribution Capital
Service Replacements
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
5. Service Replacements	12,000	11,639	11,529	11,408

Complementary to SCG's main replacement activities are capital improvements associated with service replacements**.** Service replacement costs completed as part of main pipeline projects are captured in the main replacement budget category. The work represented in this category includes expenditures associated with routine replacement of isolated distribution service pipelines to maintain system reliability and ensure customer safety.

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. These services are considered "stranded steel" which are typically the result of a steel service not being replaced along with the steel main it was originally tied to. To correct these leaks, it is sometimes more prudent (from a pipeline operation standpoint) to replace the entire service rather than repair the leak and install and maintain cathodic protection on the existing service.

A review of the five-year historical data (2005 - 2009) shows this category of spending has remained fairly constant over time. Based on this level of stable spending for routine service replacement, SCG is projecting the TY2012 forecast based on a five-year average spending. In addition, 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 $202,000, $312,000, and $433,000 in 2010, 2011, and 2012, respectively. (See Section IV.A. "Capital Introduction" for more discussion on this item.)

In summary, the annual cost for this work category is forecasted to be $11,639,000, $11,529,000, and $11,408,000 in 2010, 2011 and 2012, respectively.

6. Main & Service Abandonments Capital (Budget Codes: 254 and 259)

Table SCG-GOM-35
Gas Distribution Capital
Main & Service Abandonments
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
6. Abandonments	2,858	4,022	4,022	4,022

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

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. Service lines are deactivated due to replacement with new service, relocation of the meter set to a different location, cancellation of gas service due to building demolition, or when temporary service is terminated. When a service line becomes inactive it is evaluated to determine if it will be left in place or if abandonment is required. If it is not abandoned, it is re-evaluated at least every five years to ensure that safe conditions remain. A service line is left in place when it appears the service may be used again without alteration. On the other hand, service lines are abandoned when:

- There is likelihood of leakage or damage.
- The last or only structure on the property has been, or will be, removed or demolished and the service will not serve a new structure.
- The service extends into private property served by another service, and it does not appear it will be reused.
- The source of supply is being replaced, relocated, or abandoned and no immediate reuse is foreseen.
- A temporary service becomes inactive.

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 annual cost for this work category is forecasted at $4,022,000 for each of the years 2010, 2011 and 2012.

7. Regulator Station Projects Capital (Budget Code: 265)

Table SCG-GOM-36
Gas Distribution Capital
Regulator Stations
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
7. Regulator Stations	3,864	6,319	7,186	7,424

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

As part of maintenance activities, the field workforce inspects and records the condition of each station. These inspection evaluation elements are used to prioritize station replacement work. For example, single-vault regulator stations may contain equipment that is no longer available in the industry; therefore, replacement becomes necessary due to equipment obsolescence. Additionally, more modern two-vault stations may require replacement due to system reinforcement or growth. SCG operates and maintains approximately 2,000 regulator stations, of which about 20 stations are replaced or added to the system each year. The average life expectancy of a regulator station is approximately 35 years. Approximately 700 stations in the SCG system are over 35 years old. While SCG's operating and maintenance practices have allowed these stations to exceed their useful lives, it is prudent to continue to replace them prior to failure. Failure of a regulator station could result in over-pressurization of the gas distribution system, resulting in reduced service to customer and/or jeopardizing public safety.

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. In addition, 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 $36,000, $77,000, and $141,000 in 2010, 2011, and 2012, respectively. (See Section IV.A. "Capital Introduction" for more discussion on this item.)

In summary, the annual cost for this work category is forecasted to be $6,319,000, $7,186,000, and $7,424,000 in the years 2010, 2011, and 2012, respectively.

8. Cathodic Protection Capital (Budget Codes: 173, 263, and 273)

Table SCG-GOM-37
Gas Distribution Capital
Cathodic Protection
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
8. Cathodic Protection	3,947	4,192	4,328	4,464

DOT Regulation 49 C.F.R. §192, Subpart I, and CPUC General Order 112-E set forth the standards for pipeline corrosion control. This work category includes expenditures associated with new installation and replacement of CP systems and equipment. Examples include impressed current stations, deep well anode beds, magnesium anode systems, and CP instrumentation and monitoring equipment.

As noted previously, buried steel pipelines will revert back to their natural state as an iron oxide (corrode) without proper intervention. Corrosion on pipelines increases the potential for leaks, and may reduce the useful life of the pipelines. In addition to the application of coating and electrical isolation, CP is one method for mitigating external corrosion on steel pipelines. CP combats corrosion by imposing an electric current flow toward the surface of the pipeline, which means keeping the pipeline negatively charged (cathodic) with respect to the surrounding soil. This results in reduced corrosion on the pipeline system.

SCG utilizes both impressed current and magnesium anode systems to provide CP to existing pipelines. Impressed current systems utilize a rectifier for the generation of the DC current. Both

systems utilize sacrificial anodes as a primary component in the system. Anodes are installed in "wells" drilled into the surrounding soil by third-party drilling contractors. Each protected pipe segment requires multiple anodes, referred to as an "anode bed". The number of anodes needed to achieve the desired level of protection and the average life of the anode bed can vary based on pipeline length, coating effectiveness, soil conditions and interference that may occur on the system.

The forecast of funding for this compliance activity was 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 of 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 had 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 1970s, therefore with this aging infrastructure SCG can anticipate having to complete more replacements as the materials effectiveness declines.

Overall the capital request for this work category is forecasted to be $4,192,000, $4,328,000 and $4,464,000 in the years 2010, 2011, and 2012, respectively.

9. Pipeline Relocations – Freeway Capital (Budget Codes: 261 and 268)

Table SCG-GOM-38

Gas Distribution Capital
Pipeline Relocations - Freeway
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
9. Pipeline Relocations – Freeway	2,219	2,207	2,196	2,179

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 utility agreements with these agencies.

Gas facility projects and work initiated to accommodate these freeway enhancements include all sizes of distribution pipeline work, supply line alterations, service alterations, and MSA alterations performed due to existing SCG facilities interfering with freeway construction. The exact timing and number of freeway pipeline projects is driven by outside agencies, therefore, 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.

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. Furthermore, 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. 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. As the economic conditions improve and the demand on the overall public infrastructure continues to grow, SCG anticipates that more projects will be added to the inventory of work to be completed within this category. For the years 2010 through 2012, SCG is forecasting a base funding level equal to the 2009 adjusted recorded base. In addition, 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 $12,000, $22,000, and $40,000 in 2010, 2011, and 2012, respectively. (See Section IV.A. "Capital Introduction" for more discussion on this item.) Overall, the annual capital request in this category for years 2010, 2011 and 2012 is $2,207,000, $2,196,000 and $2,179,000, respectively.

10. Pipeline Relocations – Franchise Capital (Budget Codes: 262, 269, 271, and 272)

Table SCG-GOM-39
Gas Distribution Capital
Pipeline Relocations - Franchise
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
10. Pipeline Relocations – Franchise	8,887	9,260	9,477	9,660

Franchise work in SCG is driven by external agencies, such as cities, counties, or the state. These agencies submit requests for SCG to relocate pipe that would, in its current location, interfere with the construction or reconstruction of roads or railway systems. Some examples 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 and county agencies.

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 anticipates future expenditures in this workgroup to approximate a five-year trend of the 2005 to 2009 spending levels. The expectation for continuing growth in requests from municipalities for the relocation and/or alteration of SCG facilities is based on the following influential factors:

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

Franchise projects are influenced by the economic conditions of the area. As the economy grows, so does the funding available to municipalities, which allows them to work on more projects, such as street repairs or resurfacing. This increased municipality work leads to more requests for SCG to relocate or alter pipelines. As described in Section I.C. “Economic Conditions”, projections for economic growth hit a low in 2009, with 2010 marking a transitional year, and rebounding through 2012, with forecasted employment in 2011 and 2012 near what was seen in 2005 through 2006. Given the expected economic rebound, SCG anticipates future increases in spending in this work category.

As noted previously, another source of increased funding to the municipalities is federal stimulus money. Federal stimulus funding has already generated inquiries into possible franchise construction conflicts. SCG anticipates that this additional funding will lead to additional franchise relocation and alteration projects in future years.

Population growth and density also drive municipality work. As an area's population grows or expands, there is a need for street widening and increased street maintenance. It also affects the demand on a municipality's water and sewer systems, which often generates projects to increase the system capacity. This type of external work affects the number of requests SCG receives to alter or relocate its pipelines. Based on anticipated growth in new business in the upcoming years, SCG expects to see an increase in franchise requests. For additional details on the forecast of customer meter sets please refer to the prepared direct testimony of SCG Customers witness Mr. Scott Wilder, Exhibit SCG-30.

Finally, as a municipality's infrastructure ages, there is an increase in the level of maintenance or replacement activity necessary for the aging streets or pipes. This activity generates additional requests for SCG pipe relocations and alterations. In February 2010, there was an article published in Western City, the monthly magazine of the League of California Cities, that discussed California's aging infrastructure, titled "Assessment Shows California's Local Streets and Roads at Risk Statewide." In this article, Larry Patterson, public works director for the City of San Mateo, and Jim Biery, director of public works for the City of Buena Park, state that the current level of funding available to municipalities is not enough to keep up with routine maintenance and repairs. By deferring this maintenance work, municipalities will see an increased need for repairs in future years. Once municipalities start addressing their back-logged maintenance work, SCG expects to see an increase in the requests to relocate or alter pipelines.

Collectively, these factors point to increasing demands for relocation and/or alterations to SCG facilities. In response, SCG anticipates future expenditures in this workgroup to approximate a five-year trend of the 2005 to 2009 spending levels. In addition, 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 $55,000, $105,000, and $187,000 in 2010, 2011, and 2012, respectively. (See Section IV.A. "Capital Introduction" for more discussion on this item.) Overall, the capital request in this category for years 2010, 2011 and 2012 is $9,260,000, $9,477,000 and $9,660,000, respectively.

11. Mobile Home Parks (Budget Code: 906)

Table SCG-GOM-40
Gas Distribution Capital
Mobile Home Parks
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
11. Mobile Home Parks	4	67	67	67

The Mobile Home Park (MHP) category includes the purchase of existing MHP natural gas distribution systems. Public Utilities Code §2791 (1996) require local utilities to work with MHP owners, upon written request, to transfer ownership of their utility distribution systems.

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 anticipated 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 the assets to SCG. The system transfer values are based on each park's asset attributes (i.e., pipeline footage, main and service line condition, and pipe size).

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. Overall, the annual capital request in this work category is $67,000 for each of the years 2010, 2011, and 2012.

12. Other Distribution Capital Projects (Budget Codes: 264, 270, 274, 275, and 901)

Table SCG-GOM-41
Gas Distribution Capital
Other Distribution Capital Projects
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
12. Other Capital Projects	2,769	3,448	3,448	3,448
12. Meter Guard Installations	892	984	1,097	1,210
Total	**3,661**	**4,432**	**4,545**	**4,658**

This work category covers the expenditures for capital adjustments to SCG facilities not specifically included in the other categories of work and also includes meter guard installations.

a. Other Capital Projects (Budget Codes: 270, 274, 275, and 901)

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

- Replacement, alteration, or abandonment of appurtenances to mains such as valves, vaults, drips, traps, roads, and fences due to condition to ensure the reliable operation of the distribution system.
- Raising, lowering, or relocating mains 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 mains or MSAs, installation of customer exclusively-used mains, or moving or relocating regulator stations.

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.

Over the five-year period from 2005 to 2009, spending in 2006 was the highest at $4.4 million while spending in the most recent year (2009) declined to $2.8 million. To capture the variability of work elements and to reflect the anticipated improvement in economic conditions (See Section I.C. "Economic Conditions"), SCG anticipates funding requirements for this work category to equal the five-year average spending from 2005 to 2009.

Overall, the annual capital spending for this work category is forecasted to be $3,448,000 for each of the years 2010, 2011, and 2012.

b. Meter Guard Installations (Budget Code: 264)

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

Meter guard installations continue to ensure public safety and operations in a growing service territory. The installation of meter guards creates a more secure environment at the MSA location, which, in addition to increasing public safety; results in increased longevity and performance of the MSA equipment. Furthermore, increased density creates additional conflicts with vehicular traffic impeding on MSA locations. Recent trends in architecture, to maximize saleable square footage, has

resulted in less room for MSAs, increasing the demand for meter guards to ensure MSAs are protected at these less desirable locations.

In a response to a need to protect its assets and promote public safety, SCG's spending in this activity over the last five years has been increasing at an average of 19% per year. Given the anticipated continued density growth within the service territory, SCG anticipates this upward trend in spending will continue at the historical five-year (2005 – 2009) trend.

Overall, the capital spending for this work category is forecasted to be $984,000, $1,097,000 and $1,210,000 in years 2010, 2011 and 2012, respectively.

13. Meters and Regulators Capital (Budget Codes: 163, 164, 180, 181, 280, and 281)

Table SCG-GOM-42
Gas Distribution Capital
Meters and Regulators
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
13. Meters & Regulators	20,413	24,797	26,219	31,016

This work category includes expenditures for the purchase of gas meters, regulators, electronic gas pressure and temperature correction equipment, and electronic pressure monitors (EPMs). These expenditures are necessary to promote public safety, comply with applicable rules and regulations governing gas metering (CPUC General Orders 58-A and 112-E) and meet SCG's obligation to accurately measure gas consumption and to serve new customers.

a. Purchase of Meters (Budget Code: 163)

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. Meter types purchased within this budget code include diaphragm, rotary, turbine, and ultrasonic. The associated installation expenses are covered in other applicable work categories (e.g. New Business Capital, Field Service O&M).

New business meters are purchased for installation at new customer premises. Meter purchases in this category are consistent with installations discussed in Section IV.B.1, "New Business

Capital". For additional details on the forecast of customer meter sets please refer to the prepared direct testimony of SCG Customers witness Mr. Scott Wilder, Exhibit SCG-30.

Meters are also purchased for replacements resulting from company or customer identified problems due to meter accuracy, age, or operation; or on a pre-determined replacement cycle based on meter capacity, size, and meter class performance. The forecast for small meter activity reflects SCG's endeavor to replace 180,000 small meters each year as authorized by the Commission. The details on SCG's planned small meter replacement program are in the prepared direct testimony of Mr. Edward Fong, Exhibit SCG-07.

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. See the meter purchase forecast below:

Table SCG-GOM-43
Gas Distribution Capital
Forecast of SCG Meter Purchases

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.

The capital funding required for meter purchases in years 2010, 2011, and 2012 is $19,351,000, $19,431,000, and $20,198,000 respectively.

b. Procurement of Pressure Regulators (Budget Code: 164)

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 regulator materials and technical evaluations. The associated installation expenses are covered in other applicable work categories (e.g. New Business Capital, Field Service O&M).

While new installations are driven by new meter set activities and new regulator stations, replacements are driven by customer or company identified problems, condition, and obsolescence of this equipment. Beginning in 2011, SCG anticipates having to purchase an additional 17,000 regulators above levels purchased in 2009 to replace obsolete equipment. Furthermore, to avoid an unplanned surge in replacements as units decline in effectiveness, beginning in 2012 SCG is instituting a systematic approach to replacing regulators. This effort will streamline the scheduling of these replacements to efficiently utilize the service technicians' time while visiting the meter for other scheduled work. Under this systematic approach, regulator purchases in 2012 are estimated to increase 100,000 over the 2011 level.

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 funding for regulator purchases was based on a blended rate of the regulator contract prices multiplied by the new business installation and replacement requirements. See the regulator purchase forecast below:

Table SCG-GOM-44
Gas Distribution Capital
Forecast of SCG Pressure Regulator Purchases

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**

The capital funding request for regulator purchases in the years 2010, 2011 and 2012 is $3,535,000, $4,894,000, and $7,047,000, respectively.

c. Purchase of Volumetric Correctors (Budget Codes: 180 and 280)

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. Costs discussed here are for the materials purchase and labor cost for equipment configuration and initial installation.

SCG purchases electronic correctors to support new business installations and to provide for general instrument replacements. New electronic gas measurement instruments are purchased to support a growing customer infrastructure. Historically, approximately 0.2% of all new business customers required pressure correction devices due to a 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.

In addition, gas measurement instruments are routinely replaced due to aging, and/or failed or damaged devices. These devices have a useful life cycle of five to ten years, at which point hardware fails or becomes obsolete. It is necessary to replace these devices before they fail to avoid customer billing errors and related increases in operations and maintenance expense. The installed base for gas measurement devices included in this work category is approximately 7,500 units. In preparing the forecast for the instruments discussed above, 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.

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. Many of the meter set instruments at these sites are reaching the end of their useful life. Forecasted costs in this category include replacement of flow computers and gas chromatographs that are 15 years or older, used to remotely access real-time gas quality information. 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. See the instrument purchase forecast below:

Table SCG-GOM-45
Gas Distribution Capital
Forecast of SCG Pressure/Volume Instrument Corrector Purchases

Instrument Purchases	2009*	2010	2011	2012
New Business Instruments (Budget Code 180)	73	90	95	110
Replacement Instruments (Budget Code 280)	74	196	166	171
Totals	**147**	**286**	**261**	**281**

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

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. The capital funding request for instrument purchases in the years 2010, 2011 and 2012 is $960,000, $894,000, and $1,624,000, respectively.

d. Purchase of Gas Pressure Recording Instruments (Budget Codes: 181 and 281)

Electronic pressure monitors (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.

The primary purposes of the electronic pressure monitor network are system safety and compliance with 49 C.F.R. §192.741 (Pressure limiting and regulating stations: Telemetering 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 someone 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. The situation is likely to get worse as the market for the mechanical pressure charts continues to diminish.

SCG has remaining in operation approximately 1,700 of these mechanical chart devices. Understanding the business risks associated with the continued use of older obsolete equipment, the Company 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. In addition, as the in-service EPM population grows, starting in the year 2010 SCG will need to replenish the EPM inventory to replace failed or damaged instruments. Failure rates are based upon original population of EPM installed by SCG which are reaching the end of their anticipated ten-year useful life.

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. See the EPM purchase forecast below:

Table SCG-GOM-46

Gas Distribution Capital
Forecast of SCG EPM Purchases

EPM Purchases	2009	2010	2011	2012
New EPM Installations (Budget Code 181)	54	181	167	332
Failed or Damaged EPM Replacements (Budget Code 281)	0	29	57	111
Totals	**54**	**210**	**224**	**433**

The capital funding request for EPM purchases in the years 2010, 2011 and 2012 is $951,000, $1,000,000, and $2,147,000, respectively.

14. Equipment / Tools Capital (Budget Codes: 713, 714, 715, 725, 727, and 729)

Table SCG-GOM-47
Gas Distribution Capital
Equipment / Tools
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
14. Equipment/Tools	1,208	2,193	2,253	1,393
14. New Environmental Regulatory Balancing Account	0	0	15,700	0
Total	**1,208**	**2,193**	**17,953**	**1,393**

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 drivers of this category include the need to replace existing tools that are broken, outdated technologically, or have outlived 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.

Historical spending 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.

a. Routine Purchases

Distribution field, customer services field, and the meter shop routinely purchase tools to replace broken or obsolete tools and equipment on an as-needed basis. In addition, SCG looks for technologically advanced tools and equipment that will support innovative ways of completing the maintenance and repair of its facilities, lessen customer disruptions, and improve construction safety. SCG takes a conservative approach to purchasing new tools and equipment by first purchasing a small number to test and monitor their effectiveness and to determine their value to the operations. Given the variation in requirements from year to year, the forecasted base level expenditures for routine business purchases were determined by using a historical five-year (2005 through 2009) average.

The capital funding requirement for replacement of broken or obsolete tools and equipment and small purchases or new technology for testing is $493,000. Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund equipment and tools in 2010, 2011, and 2012. These work elements are described below.

b. Multi-Gas Detector Replacement

In 2009, SCG began the system-wide replacement of its existing leak and carbon monoxide detection equipment with a single new device. Prior to 2008, Customer Service field personnel were using three electronic instruments for natural gas and carbon monoxide detection – the GasTrac, Monoxor II, and the Gas Scope. SCG reviewed the equipment that was in use and compared it to newly available equipment. In addition, SCG evaluated the remaining useful life of its existing equipment. Based on this evaluation, SCG decided to replace the equipment.

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. Furthermore, the original manufacturer of the leak detection equipment stopped providing the sensor necessary to operate the unit. In addition, technology for this type of equipment has advanced, rendering the existing devices technologically obsolete.

In 2009, SCG began to replace the Gas Trac, Monoxor II, and the Gas Scope instruments currently in use with a single, multi-gas detection unit. SCG will purchase 1,900 units, 48 calibration stations, and miscellaneous supporting accessories. The total cost of this program is estimated at $3,495,000 and will be incurred over multiple years. The 2009 cost was $853,000. The capital funding required for this program in the years 2010 and 2011 is $1,700,000 and $860,000, respectively.

c. Remote Laser Leak Detectors

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. SCG has tested these units and determined that they effectively and efficiently detect leaks at inaccessible locations. SCG proposes to purchase two units per district (100 units) at $18,000 each, over a two-year period, beginning in 2011. The capital funding required to purchase this equipment is $900,000 in each of the years 2011 and 2012.

d. New Environmental Regulatory Balancing Account

As previously discussed in the Measurement and Regulation O&M Section II.B.1c.viii., in her prepared direct testimony, Exhibit SCG-15, Ms. Lisa Gomez discusses a variety of new and proposed environmental requirements that SCG is required to address. In particular, the proposed new Subpart W to the Greenhouse Gas Mandatory Reporting Rule will have a direct impact on gas distribution operations. Under the conditions of this proposed rule, SCG will be required to annually report fugitive and vented methane emissions from natural gas distributions systems; annually inventory components; annually survey for leaks, and conduct other new activities. Compliance may require data collection beginning in January 2011 and the first report containing the expanded information would be due in March 2012. The cost to achieve compliance under the proposed conditions is estimated to be $15,700,000 in 2011 to purchase optical scanning equipment. However, as discussed by Ms. Gomez, since there remains a degree of uncertainty about the specific compliance requirements, SCG is proposing a two-way balancing account for the expenses incurred. Please see the prepared direct testimony of Mr. Greg Shimansky, Exhibit SCG-34, for details of accounting treatment.

The overall capital funding requirement for the tools and equipment category for years 2010, 2011 and 2012 is $2,193,000, $17,953,000 and $1,393,000, respectively.

15. Field Capital Support (Budget Code: 903)

Table SCG-GOM-48
Gas Distribution Capital
Field Capital Support
(Shown in Thousands 2009 Dollars)

	2009 Adjusted-Recorded	2010 Estimated	2011 Estimated	2012 Estimated
15. Field Capital Support	35,741	38,323	40,207	39,694

This work category provides the labor and non-labor funding for a broad range of services to support Gas Distribution field capital asset construction. Traditional work categories in this budget 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. Support activities recorded to this budget include:

Technical Planning

Technical planning refers to all activities that take place in the Region technical and district offices in support of capital projects. These support work activities include, but are not limited to, the following:

- Planning the Project – Conducting field visits to assess job site requirements; retrieving available drawings for the proposed site to determine construction options; selecting materials; job specifications and method of installation; developing traffic control procedures; and obtaining permits.
- Produce Project Drawings – Drawings that are required to obtain construction permits, used by SCG and contractor field crews for asset installation, and documenting the project in SCG records.
- Acquire & Manage Third-party Services – Acquire third-party contract services such as paving, steel plates, equipment, and new business joint trenching. Ensure third-party services provided meet SCG standards and that the joint trench provided by the applicant is to specifications.
- Work Order Cost Estimating – Provide work order cost estimates for each capital project.

Local Engineering

The work performed by local engineering to develop construction design requirements, pressure specifications, oversee region emergency response and assessments of construction affect the gas distribution system-wide reliability.

Clerical and Dispatch

Clerical support ensures that all new business and replacement projects are accurately reconciled and work orders are recorded properly and maintained in SCG records. In addition, this support ensures the accurate record retention of construction permits, replacement work orders, and customer requests in SCG records. Dispatch support ensures all aspects of the construction job have been coordinated – from securing permits to availability of supplies – and schedules work for completion in the field.

Field Management & Supervision

Field management and supervision of SCG and contractor field crews is covered by this area. This includes the inspection of Company and contractor work to ensure that construction follows job specifications, construction and safety standards, and employee safety procedures. This also includes the management of front line supervisors and technical planning office supervisors.

Off-Production Time

Off-production time refers to hours that are paid to employees who are assigned capital construction projects but spend time away from the job site. Examples of off-production time would be attendance at skills training classes and participation in required meetings to accomplish the job. This is applicable to both field and technical personnel.

Collectively, the level of support activities, as outlined above, can fluctuate with the level of capital construction activity. Generally, the greater the volume of construction activity, the larger the support costs. Because of this relationship, the forecast expenditures for the budget category of Field Capital Support was based on the level of historical costs as a percentage of construction costs incurred. Over the past five years (2005 - 2009), the percentage has ranged from 28.4% to 36.1%. In 2007 the level of construction activity is comparable to that expected for 2012. In that year, the percentage of support services to construction costs was 32%. In comparison, the average percentage 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 percentage of 30% representing the average of the two lowest percentage years – 2006 and 2007.

Added to this forecast was a cost increase not reflected in the base forecast related to 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 scheduling advisors and managers are necessary to effectuate the use of these new technical and business process changes in the four operating regions. The additional funding requirement to support the new scheduling and dispatch organization is an increase of $255,000, $306,000, and $306,000 in 2010, 2011, and 2012, respectively.

In addition, 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 $1,230,000 in the year 2012. (See Section IV.A. "Capital Introduction" for more discussion in this item.)

In summary, the capital funding required for this work category is forecasted to be $38,323,000, $40,207,000, and $39,694,000 in the years 2010, 2011, and 2012, respectively.

V. CONCLUSION

SCG faces a number of challenges affecting both the physical operation of the pipeline system and cost management aspects of its business. Operations and maintenance requirements increase as the system expands; additional maintenance and replacement work is required to continue to maintain reliability of an aging infrastructure; agencies and regulatory bodies continue to impose operating conditions that increase the cost of doing business; and with this all employees must be trained and ready to respond. The forecast presented in this testimony reflects SCG's best judgment of work and the associated costs required to:

- Operate and maintain its gas distribution system.
- Construct new gas distribution facilities.
- Replace existing facilities that are experiencing deterioration.

Gas Distribution is requesting the Commission adopt its TY2012 forecast of operations and maintenance expense for non-shared and shared services (booked expense) of $132,337,000. This is an increase of $38,904,000 over the 2009 adjusted recorded base. Of this increase, $23,442,000 is attributable to new environmental compliance requirements and the remaining increase is driven by

increased agency regulations and requirements, improved economic conditions, system expansion, infrastructure renewal, field technical skills training, and integration of new technology.

In capital, SCG is requesting the Commission adopt its forecast of $187,825,000, $224,217,000 and $212,576,000 in 2010, 2011 and 2012, respectively. The primary factors influencing the three years of capital forecast are environmental compliance requirements and anticipated increases in new business-related activity. For the noted O&M and capital new environmental compliance requirement, SCG is seeking two-way balancing account treatment.

These forecast expenditures support Gas Distribution's fundamental philosophy of maintaining operational excellence while providing safe, reliable delivery of gas energy at the lowest reasonable cost to customers. The Commission should find this request reasonable in that:

- The activities are necessary to maintain the delivery of safe and reliable service that SCG has been providing customers for many years.
- The activities are consistent with operational codes and standards established by local, state, and federal agencies.
- The activities respond to operations, maintenance, and construction needs associated with projected customer and system growth and demands of cities and counties under the Company's franchise agreements.
- The forecast amounts are reasonable in light of historical spending.
- The Capital forecast incorporates significant cost reductions from process changes reducing otherwise foreseen increases in overall Company capital spending.

SCG's TY2012 forecast is a reasonable estimate of future requirements and should be adopted by the Commission.

This concludes my prepared direct testimony.

VI. WITNESS QUALIFICATIONS

My name is Gina Orozco-Mejia. My business address is 1919 S. State College Blvd., Anaheim, California. I am employed by SCG as Director, Orange Coast Region. Orange Coast Region includes Orange County and the eastern portion of Los Angeles County. I have been employed by SCG since 1990 and have previously held dual responsibilities at both SCG's and SDG&E's Distribution Operations. I have 20 years of experience in the utility industry. While at SCG, I have held various staff and line positions in the functional areas of Gas Distribution Field Operations and Technical Services, Gas Engineering, Gas Operations Services, and Gas System Operations.

My present responsibilities (within one of four operating regions) include ensuring the safe and reliable delivery of gas energy through the distribution pipeline network and the overall management related to the operation, maintenance, installation, and replacement of the gas distribution system as well as field customer services at the region level. I also direct a group that provides technical and financial support for gas distribution project management and construction activities. This includes gas distribution planning and system design; emergency preparedness; response and recovery; and the preparation and management of O&M and capital budgets.

I earned a Bachelor of Science Degree in Electrical Engineering from California State University, Los Angeles.

I am sponsoring the 2012 General Rate Case Testimony for Southern California Gas Company's Gas Distribution Operations and Maintenance expenses and Capital spending plan. I have not previously testified before the Commission.