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

Application 10-12-___
Exhibit No.: (SCG-13)

PREPARED DIRECT TESTIMONY OF

RICK PHILLIPS

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
RICK PHILLIPS
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OPERATIONAL EXCELLENCE

I. INTRODUCTION

Purpose of Testimony

The purpose of this testimony is to describe the Operational Excellence 20/20 ("OpEx 20/20") program and the associated costs and benefits that have been incorporated into the Test Year 2012 ("TY 2012") General Rate Case ("GRC") and to sponsor OpEx 20/20 capital projects in the 2010-2012 GRC period.

OpEx 20/20 Program Overview

The OpEx 20/20 program was developed as a set of enterprise, technology-based initiatives across Southern California Gas Company ("SoCalGas") and San Diego Gas & Electric Company ("SDG&E") (collectively, the "Utilities") intended to make the Utilities more efficient and to help them meet future operational challenges. It is a collection of related projects whose common tie is the use of technology to improve operations primarily in the gas and electric distribution and call center functions across both SoCalGas and SDG&E. The program was envisioned to take a far reaching approach to improve service to customers, provide tools to employees, and reduce rate pressures. The overall program cost across both Utilities is $545 million, and the overall Net Present Value ("NPV") benefit of $251 million. Most of the projects will be completed and in-service by the end of TY2012. As a result, the overall combined SCG and SDG&E O&M request in TY2012 is lower by $5.7 million as a direct result of OpEx 20/20 projects that have been or will be implemented in the 2010-2012 GRC period.

As discussed below, in TY2012 we are also beginning to experience capital-related benefits but those benefits do not yet exceed the TY2012 capital expenditures. The funding to complete the remaining projects is requested in this testimony and the benefits are reflected in the testimony of the witnesses representing the impacted organizations. Two projects at SDG&E will not be completed and in-service by the end of TY2012 and these projects are not included in this GRC. These projects will be completed and placed into service in the 2013-2015 period resulting in continuing capital-related expenses in the post-test years (see the Post Test Year Ratemaking Framework testimony of

Mr. Herbert S. Emmrich (Exhibit SCG-39) for the treatment of these expenses on a revenue requirement basis).

Program History

As described in the TY2008 GRC (Supplemental Testimony of Hal Snyder - June 2007), the Utility of the Future ("UoF") was a program initiated to develop a roadmap for the deployment of technology to be used to improve operations, enhance the customer experience and provide more tools and information for supervisors and front line employees. SoCalGas and SDG&E were not content to continue to take incremental efficiency improvements. Taking a longer and more comprehensive view was recognized as a way to achieve sustained improvements and potentially larger overall savings than is typically afforded by smaller incremental changes. The Utilities are committed to being aggressive in pursuing operational improvements. Many of the projects bring SoCalGas and SDG&E on par with the best-in-class and some put us further along than our peers. A programmatic, enterprise approach was a significant undertaking, but one in which the companies invested time and talent to pursue. The UoF was seen as a way to leapfrog over small incremental changes in order to reap larger improvements, both tangible and intangible, for the benefit of both customers and employees.

The UoF program was still in the final development stages in 2007 when the supplemental testimony was filed. The program was subsequently finalized and renamed as Operational Excellence 20/20 and has since been known as OpEx 20/20. The OpEx 20/20 program was developed to fill the gap between the individual projects developed in the UoF program and the integrated, enterprise-wide technology and process improvement program required to meet operational objectives and achieve full benefits. Program refinements occur as each of the projects progresses through the project lifecycle phases and more information is available, enabling the refinement of project goals, objectives, costs, deliverables and benefits. The most significant changes that have occurred include:

- Increased complexity in legacy system conversion, system integration and application design and build.
- Compression of the Geographic Information Systems ("GIS") data conversion schedule to reduce risk and cost associated with maintaining duplicate data sets.
- Increases in internal labor loaders due to increases in pension and benefits funding.
- Emphasis on overall program management and governance.
- Increased complexity in hardware infrastructure to accommodate multiple applications and the associated environments.

The original UoF program proposed the consolidation of over 30 individual projects that were included in the then current GRC submittal under various witnesses. The majority of the estimated

program O&M costs for the potential UoF initiatives were contained in the budgets for those projects. The funding for the OpEx 20/20 program was a consolidation of those dollars, reprioritization of other activities, as well as "self-funding" from project-generated savings.

OpEx 20/20 (in its current form) is an enterprise program composed of three major workstreams containing 12 projects. The program is based on the technology based roadmap developed in the UoF program. Some of the projects have already been completed, and all but two of the SDG&E-specific projects are expected to be complete by the end of TY2012. The program is expected to meet its goals as currently envisioned. The program results in financial benefits to ratepayers as well as improvements in the overall customer experience. The solutions being implemented will renovate many of the SoCalGas and SDG&E key operating systems and the associated IT infrastructure, and streamline the associated processes to achieve productivity targets, reduce upward pressure on rates and improve service. The current program of enterprise-wide technology and process improvement projects will upgrade capabilities in the operational organizations of electric distribution, electric transmission and substations, gas distribution, and call centers.

Program Costs and Benefits

OpEx 20/20 has made capital investments that have and will continue to result in capital and operating savings. The savings are primarily related to productivity improvements, so the resulting savings are ones that produce long-term reduction in costs. The nature of these types of large capital projects is that they have a longer payback period, but the eventual, cumulative savings are correspondingly large. These types of large capital investments are, in the long run, good for customers.

The benefits of the OpEx 20/20 program fall into two areas: those that are financial or quantitative, and those non-financial or qualitative. The non-financial benefits include enhanced self-service opportunities for customers, improved customer satisfaction, more accurate and timely asset information and ready access to information in the field for front line supervisors, technicians and crews.

The program financial benefits, both O&M and Capital, are categorized as either cost savings or cost avoidance. Cost savings are those that result in an actual reduction of expenditure when compared to historical spending levels, allowing operating department budgets to be reduced. Cost avoidance is a reduction in what would have been expended had the OpEx 20/20 program not been implemented, resulting in reduced future cost increases. Both reduce upward pressure on rates. Cost

savings have already been achieved for those projects or phases of projects that have been implemented in 2008 and 2009, and those results are reflected in the 2008 and 2009 recorded costs of the impacted organizations. Additional benefits to be achieved through implementations in years 2010-2012 are reflected in the TY2012 forecasts.

The OpEx 20/20 total projected costs over the program lifetime are $545 million. These O&M and capital expenditures, for the purpose of business case financial analysis, are estimated in fully loaded and escalated dollars, including labor loaders such as pension and benefits, vacation and sick time, payroll taxes and workers compensation, as well as inflation and growth factors on both labor and non-labor costs, and AFUDC. The bulk of the expenditure occurs in the 5 year period of 2008 through 2012. Using standard project economic methods, the overall NPV of the project generates a $251 million net benefit when both cost avoidance and cost savings are included; and a $101 million net benefit when only cost savings are included. The payoff for this large investment is significant, with the cost savings and cost avoidances used to help keep rates low for customers.

OpEx 20/20 was established as a program in 2007. It is scheduled to be shut down as a stand alone program in 2012. All but two of the individual SDG&E-specific projects that constitute the OpEx 20/20 program will be complete by then. Those projects will be managed within their respective operations groups through completion in 2015.

Accomplishments To-date

Several projects have been completed or have phases that have been completed and the associated benefits have been realized.

- The Supervisor Enablement project was completed and mobile data terminals with wireless access to back-office systems were deployed to over 300 field supervisors. Additionally, an organizational structure was implemented to support supervisors with additional training, resolution of technical issues, analysis and reporting enhancements, and on-going change support. Survey results indicate that supervisors have been able to increase their time supporting crews in the field as a result of the new technology.
- The Customer Interactions Interface project and several components of the Operational Insight Analytics, Single View of the Customer, and Intelligent Customer Experience projects have been implemented. Included in this is the refresh/replacement of the customer contact infrastructure, hardware, software and telephony. Analytic tools have been implemented to track and analyze Web and Interactive Voice Response ("IVR") transactions and on-line services have been expanded. These Customer Care projects are intended to

increase the amount of transactions that can be performed by the Customers themselves either on the Web or via the IVR system. Self-service transactions have been increasing since the implementation of these components.

- GIS GEARS Phase 1 was implemented and has improved project screening, reporting, documentation and data management system-wide for environmental services. Base environment project information, which provides documentation for compliance, is now stored in a single repository for all utility projects that require a detailed environmental review. The GEARS application manages data and information that helps reduce future and duplicate field visits, and helps reduce the chance of non-compliance with environmental regulations.
- CBM Phases I and II were completed and resulted in the implementation of sensors and data collection at 10 Distribution substations, as well as the implementation of the back office data collection infrastructure, notification mechanisms/alerts, and data analytics and reporting. As a result of the implementation, 6 Distribution transformer bank replacements were deferred in 2009.
- The AIS project was completed and resulted in the implementation and adoption of software and new processes that support the optimal prioritization of gas and electric capital spending. The new software and processes were utilized as part of the 2010 capital planning effort, and the analysis recommended a shift in funding from electric distribution to gas distribution, allocating capital funds to projects with the highest aggregate benefit.

Program Management

The overall program is managed by the OpEx 20/20 Program Management Office ("PMO"). The complexity of each of the projects and the integration between them and other existing enterprise systems requires the establishment and enforcement of formal project management processes and procedures. The PMO establishes standards and rigor on the projects to help ensure success. The primary responsibilities of the PMO are to provide project management methodology standards, process and templates, manage overall program budget and reporting, and facilitate coordination between projects.

With multiple projects impacting the same work groups, it is necessary to coordinate the implementations and changes that result with special emphasis in the organizations that will be the recipients of the new processes and technologies. There is significant advantage to a consistent approach to training and employing best practices for delivering training. This effort within the OpEx

20/20 program is called Education, Training and Communication ("ETC") and is coordinated by the PMO. Challenges that must be addressed include: multiple projects with different implementation dates, multi-site implementations, diverse set of stakeholders, and stakeholders impacted by one or more projects. A centralized ETC organization was established to provide guidance, support, tools and methodologies to drive the necessary coordination across change-related activities within the entire program.

The solutions being deployed will result in the replacement and/or implementation of major operating software systems. These systems have a significant impact on the technical infrastructure and require coordination at the program level to ensure consistency, standardization and integration. This effort within the OpEx 20/20 program is called Information Technology Infrastructure ('ITI"). The ITI is responsible for technical architecture, enterprise-level service oriented architecture, commercial Wireless Wide Area Network ("WWAN") connectivity and the server, network and security infrastructure required to support OpEx 20/20 applications.

The projects within the OpEx 20/20 program are managed in three workstreams: Asset Management, Customer Care and Field Force. A brief description of each of the workstreams follows. More detailed descriptions of each of the projects within OpEx 20/20 workstreams are included in Appendix I.

Program Workstreams

- **Field Force –** The Field Force projects will establish integrated work management, scheduling, dispatch and mobile systems and processes for maintenance and inspection and construction, from work order initiation through planning, design, scheduling, execution and closure. This includes replacement or enhancement of all back-office work management and field operations work execution systems and processes associated with inspection, maintenance, and construction activities. The applications, systems and processes that will be implemented include; standard planning and design tools, common scheduling and dispatch tools, and mobile data terminals and GPS technology for field workers.
- **Asset Management** –These projects provide tools, processes and information to enable asset decision making capabilities to optimize capital and expense spending. Key components include; investment prioritization tools and business processes, ability to develop asset strategy plans using asset strategy tools, and asset performance dashboards. The Asset Management projects will enable increased volume of infrastructure replacement work for

the same cost, reduced reliability expenses from targeted replacement of aging infrastructure, and reduced planned maintenance activity through condition-based maintenance.

- **Customer Care** – These projects are focused in two primary areas. The first is geared toward improving systems that enhance self-service opportunities for customers across the Web and the IVR system. The second is to provide additional tools and information to our CSR's in order to provide a higher level of service to customers. The Customer Care projects will result in replacement of obsolete technology, establishment of analytics and processes to drive operational improvements, and enhancement to customer information systems to consolidate customer information.

Projects

The OpEx 20/20 program is composed of 12 discrete projects and 3 program-level support functions (PMO, ETC and ITI). Program costs, over the life of the program, are estimated for each of these projects and each of the support functions. These fully loaded and escalated O&M and capital expenditures are as follows:

Table SCG-RP-01 – OpEx 20/20 Project Lifecycle Costs

	Estimated Costs 2007-2015 (in Millions)		
Initiative	**O&M**	**Capital**	**Total**
Asset Investment Support (AIS)	$2.6	$6.2	$8.8
Condition-Based Maintenance (CBM)	$1.0	$55.2	$56.2
Geographic Information System (GIS)	$63.9	$48.7	$112.6
Outage/Distribution Management System (OMS/DMS)	$4.0	$41.2	$45.3
Customer Interactions Infrastructure (CII)	$1.9	$7.9	$9.8
Intelligent Customer Experience (ICE)	$1.4	$25.8	$27.2
Operational Insight Analytics (OIA)	$1.0	$3.3	$4.4
Single View of the Customer (SVOC)	$1.1	$4.3	$5.4
Care Representative of the Future (Care Rep)	$0.3	$1.1	$1.4
Supervisor Enablement (SE)	$5.2	$4.7	$10.0
Maintenance & Inspection (M&I)	$14.1	$89.7	$103.9
Construction	$10.3	$54.9	$65.2
IT Infrastructure (ITI)	$0.0	$63.4	$63.4
Education, Training and Communication (ETC)	$9.8	$0.0	$9.8
Project Management Office (PMO)	$7.9	$13.8	$21.7
Total	**$124.7**	**$420.3**	**$545.1**

* This chart contains all OpEx 20/20 projects and reflects total program costs
* Capital is capital expenditures

SoCalGas Costs and Benefits

GRC Forecast Costs

OpEx 20/20 program costs have been forecast over the rate case forecast period (2010-2012) at the project level. Costs are separated into two categories, Project Costs and On-going Support Costs. Project costs are defined as those costs expended over the life of the project through implementation. On-going support costs or post deployment costs are those costs required, once the systems have been fully deployed, to maintain the systems and applications implemented, support system users, and regularly recurring non-labor costs. On-going support costs begin to be incurred when a project is fully deployed and the project implementation is complete. These costs become normal operating costs once a project is fully deployed and in-service. For the purposes of this GRC filing, all on-going costs are shown in the testimony of the operational witness in which the forecasted activities occur.

The following table represents the estimated SoCalGas OpEx 20/20 project costs over the rate case period. The cost estimates presented here, are in the same format as generally used in the TY2012 GRC, i.e. in 2009, direct dollars. For GRC purposes, costs and benefits associated with indirect costs (i.e., overheads on labor and non-labor such as pension and benefits, payroll tax, etc.) are captured in the total TY2012 forecasts of the witnesses for each of those functional areas and are not identified separately. The GRC forecast O&M and capital costs are as follows:

Table SCG-RP-02 – SoCalGas O&M and Capital Project Costs

	O&M			Capital		
	2010	**2011**	**2012**	**2010**	**2011**	**2012**
Labor	$2,318	$816	$2,230	$15,481	$10,475	$5,150
NSE	$2,451	$350	$280	$24,521	$13,826	$4,432
Nonlabor	$1,192	$1,614	$3,891	$16,160	$26,770	$7,778
Total ($1000)	**$5,961**	**$2,780**	**$6,401**	**$56,162**	**$51,071**	**$17,360**

The following table represents the additional estimated SoCalGas OpEx 20/20 O&M expenses that are included in the Distribution Integrity Management Program (DIMP) balancing account authorized in the prior rate case. As discussed for Project Costs, these cost estimates are in 2009, direct dollars.

Table SCG-RP-03 – SoCalGas DIMP Balancing Account Project Costs

	DIMP Balancing		
	2010	**2011**	**2012**
Labor	$1,630	$1,630	$0
NSE	$4,892	$5,635	$0
Nonlabor	$81	$81	$0
Total ($1000)	**$6,603**	**$7,346**	**$0**

The following table shows the capital request at the detailed project level. Descriptions of each of the projects listed here are shown in Appendix I, and descriptions of the IT Infrastructure and Program Management Office are provided above.

Table SoCalGas-RP-04 – SoCalGas Capital Project Cost Detail

Budget Code 00810.0	**2010**	**2011**	**2012**
Geographic Information System	$11,580	$15,722	$4,378
Single View of the Customer	$638	$0	$0
Intelligent Customer Experience	$1,078	$3,625	$562
Operational Insight Analytics	$1,076	$0	$0
Maintenance & Inspection	$28,907	$0	$0
Construction	$7,284	$24,081	$10,396
IT Infrastructure	$4,259	$6,303	$1,174
Project Management Office	$1,340	$1,340	$850
Total ($1000)	**$56,162**	**$51,071**	**$17,360**

The following table represents the estimated SoCalGas OpEx 20/20 on-going costs over the rate case period. As discussed for Project Costs, these cost estimates are in 2009, direct dollars. This is shown for illustrative purposes only, as discussed earlier, these dollars are requested in the testimony of the operational witness in which the forecasted activities occur. These costs will continue through the GRC term as part of SoCalGas' normal operating expenses. The GRC forecast costs and the allocation to the functional areas are as follows:

Table SCG-RP-05 – SoCalGas On-Going Costs

	O&M			Capital		
	2010	**2011**	**2012**	**2010**	**2011**	**2012**
Distribution	$816	$1,065	$1,050	$255	$306	$306
Customer Service	$171	$153	$151	$0	$0	$0
Engineering	$275	$300	$300	$0	$0	$0
Total ($1000)	**$1,262**	**$1,518**	**$1,501**	**$255**	**$306**	**$306**

These on-going costs are contained in the testimony of Ms. Gina Orozco-Mejia (Exhibit SCG-02), Mr. Edward Fong (Exhibit SCG-07) and Mr. Raymond K. Stanford (Exhibit SCG-05).

GRC Forecast Benefits

OpEx 20/20 program benefits have been forecast over the rate case forecast period (2010-2012) at the project level. Labor savings, both O&M and capital, are due to productivity increases enabled by the technology and processes implemented. Non-labor savings are primarily associated with the deferral of capital maintenance and/or replacement of system assets, and more efficient and effective contracting of capital maintenance and replacement projects.

As discussed for OpEx costs, the SoCalGas OpEx 20/20 benefits over the rate case forecast period are presented in 2009, direct dollars. The benefits shown here include cost savings only, an actual reduction in costs compared to historical spending. Avoided costs are not shown *directly* because they are not a reduction in the level of historical spending, but rather a reduction in what would have been requested had the OpEx projects not been implemented.

The estimated O&M savings are shown in the following table. (Note that the O&M forecast presented in this testimony is the net difference between the program O&M costs in Table SCG-RP-02 and the associated O&M benefits shown in Table SCG-RP-06). This net difference in TY2012 is a *negative* $4.9 million, resulting in a reduction in the overall O&M request.

Table SCG-RP-06 – SoCalGas O&M Benefits

	O&M		
	2010	**2011**	**2012**
Labor	($1,143)	($5,426)	($10,840)
Nonlabor	($28)	($47)	($495)
Total ($1000)	**($1,171)**	**($5,473)**	**($11,335)**

The estimated capital savings are shown in the following table. These savings are shown here for illustrative purposes only, as these savings are presented in the testimony of the operational witness in which the forecasted savings occur. The GRC forecast capital savings and the allocation to the functional areas are as follows:

Table SCG-RP-07 – SoCalGas Capital Benefits

	Capital		
	2010	**2011**	**2012**
Distribution Labor	($762)	($1,224)	($2,899)
Distribution Nonlabor	($286)	($695)	($1,479)
Engineering Labor	($34)	($47)	($69)
Engineering Nonlabor	$0	$0	$0
Total ($1000)	**($1,083)**	**($1,965)**	**($4,446)**

These capital benefits are contained in the testimony of Ms. Gina Orozco-Mejia (Exhibit SCG-02) and Mr. Ray Stanford (Exhibit SCG-05).

As shown in the tables above, capital benefits do not yet exceed capital expenses on a direct cost basis. Funding for these continuing capital projects is necessary to achieve the forecast O&M savings attributable to OpEx 20/20. I discuss the specific capital projects being requested in this GRC in Appendix I of my testimony. The TY2012 revenue requirement associated with these capital projects is calculated in the SoCalGas Results of Operations model and is part of the total capital-related revenue requirement contained in the Summary of Earnings testimony of Ms. Deborah A. Hiramoto (Exhibit SCG-38).

Post Test Year Costs and Benefits

All SoCalGas OpEx 20/20 projects will be completed by 2012 and no additional costs will be incurred in the post-test-year (PTY) period (2013-2015).

Incremental benefits will be achieved in the PTY period as a result of project phases completed in late 2012. For purposes of comparison to the TY2012 numbers, these benefits are also estimated in 2009, direct dollars. The incremental PTY forecast benefits are as follows:

Table SCG-RP-08 – SoCalGas PTY Incremental Benefits

	O&M			Capital		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**
Labor	($3,657)	($4,008)	($4,142)	($7,914)	($8,334)	($8,332)
Nonlabor	($260)	($260)	($260)	($2,691)	($2,690)	($2,690)
Total ($1000)	**($3,917)**	**($4,268)**	**($4,402)**	**($10,605)**	**($11,024)**	**($11,023)**

It is necessary to translate the 2009 direct capital costs and benefits into capital-related revenue requirements for consideration of the impact of OpEx 20/20 on SoCalGas' post-test year request. The discussion of this translation and the impact of total 2013-2015 OpEx 20/20 O&M and capital-related costs and benefits on SoCalGas' post-test year request is contained within the Post-Test Year Ratemaking Framework testimony of Mr. Herbert S. Emmrich (Exhibit SCG-39).

This concludes my prepared direct testimony.

II. WITNESS QUALIFICATIONS

My name is Richard D. Phillips. I have been employed by Southern California Gas Company since 1978. I have held various positions in the distribution, transmission, storage, engineering, and customer service functional areas. Additionally, I have been in the electric distribution functional organization at SDG&E, as well as in the supply management functional area for both SoCalGas and SDG&E. I currently have overall responsibility for the OpEx20/20 Program.

I earned a Bachelor of Science degree in Engineering from the University of California, Irvine. I am a registered professional engineer in California.

I am sponsoring the OpEx 20/20 Program section of the SoCalGas and SDG&E General Rate Case Application related to the Test Year 2012. I have testified previously before the Commission.

APPENDIX I

Asset Management Projects

Asset Investment Strategy (AIS)

The objectives of the Asset Investment Strategy (AIS) project were to implement a centralized approach to decision-making, across SoCalGas and SDG&E, and to optimize and reduce capital spending on the gas and electric delivery systems. This objective was accomplished through the implementation of redefined asset management processes that support investment prioritization; and asset-specific planning tools to strategically optimize spending for infrastructure replacement and capacity planning. The focus of the strategy, processes and tools implemented is key asset classes such as main replacement, underground cable, poles, and stations.

The strategic benefits of AIS will be improved asset management decision-making, improved visibility and predictability of assets performance, improved transparency of logic to all stakeholders, and increased ability to re-invest capital savings back into highest impact areas. Management will have the ability to objectively direct spending to the highest value areas, highest risk areas, to improve visibility and transparency of budgets and forecasts and to strategically optimize infrastructure replacement spend.

Condition Based Maintenance (CBM)

The objectives of the Condition Based Maintenance (CBM) project are to extend the life and make greater utilization of Distribution substation assets. This is accomplished through the use of technology that measures the performance and condition of equipment to improve asset performance, management and maintenance results thereby. Improving the overall system reliability of electric delivery and performing the right maintenance when it is required. This project will employ new sensor technology and predictive algorithms to model equipment health and impending failure and will allow the asset manager to ascertain the condition of equipment remotely without human testing or intervention. The end-to-end solution of sensors on substation assets, monitoring communications via substation and enterprise gateways, and back office data servers allow for the real time monitoring of substation equipment, automated notification when thresholds are exceeded, detection of failure conditions and data and analytics for establishing condition based maintenance.

Geographic Information System (GIS)

The Geographic Information System (GIS) project implements an industry standard, enterprise-wide geographic information system that supports SoCalGas and SDG&E gas transmission and distribution, electric transmission, substation, distribution, and vegetation management, and Sempra Energy Utilities (SEu) land services, environmental, and telecommunications. Critical to this GIS is a centralized asset register with validated asset attribute data, and integration to other key asset management systems and applications such as outage management, network modeling, work management, graphical work design, and mobile data devices. The GIS is a key enabler of other projects within the OpEx 20/20 program to achieve program goals, and associated benefits. These include; improved asset condition and performance, optimized asset maintenance and utilization, optimized system enhancements, improved outage predictability and system reliability, and compliance with DOT Pipeline Integrity requirements.

The enterprise GIS will replace more than 15 disparate applications and systems currently in place at SoCalGas and SDG&E that provide various types and levels of facility maps, mobile viewing platforms, plotting applications, and file management systems into a single application. It will also provide for the development and implementation of a GIS-based environmental tracking and reporting tool and implementation of a commercially maintained GIS-based landbase.

Outage Management System/Distribution Management System (OMS/DMS)

The goal of the Outage Management System/Distribution Management System (OMS/DMS) project is to replace the existing OMS and implement DMS to improve outage restoration response, predict potential grid issues, increase load on existing assets and manage customer impact, and increase process efficiencies. The project will develop a distribution management process, analytics and tools to increase operations efficiency, increase reliability, improve mapping productivity, reduce time to create switching orders and enhance outage/failure reporting. The applications and systems will be integrated with GIS, customer information systems and other work/field force systems to gain efficiency and productivity.

The OMS/DMS is a part of the larger Smart Grid strategy at SDG&E and will replace 6 separate and distinct legacy systems. It provides the real-time as-switched operational model of the distribution system and performs real-time power flow calculations. It will have the capability to; automatically detect outages, determine fault locations, provide and execute switching plans to mitigate impacts; determine out of tolerance volt/VAR conditions and provide recommended settings

for voltage regulators and capacitors and; execute switching to drop and restore load when insufficient supply occurs.

Customer Care Projects

Customer Interactions Infrastructure (CII)

The objective of this project is to deliver tailored customer treatment, advanced customer interactions and address existing technology obsolescence by implementing next generation solutions. This will address Customer Contact Center infrastructure refresh by implementing a common platform for the telephone system, computer telephony integration software, customer experience frameworks, call routing capabilities, and proactive outbound dialing. This project will replace obsolete ACD/PBX using advanced features to increase efficiencies and differentiated customer experience, deploy intelligent interaction routing, and replace existing outbound dialer to provide flexible and responsive proactive outbound campaigns. The technology and processes implemented will deliver new interaction routing capabilities to enable SEu to provide customer profile routing and create experiences unique to each customer and transaction type. It will also provide the ability to leverage sophisticated outbound dialing to minimize field "can't get in" attempts and will also provide preemptive notifications for potential high-bill enquiries.

Intelligent Customer Experience (ICE) – Self Service

The objectives of the Intelligent Customer Experience (ICE) - Self Service project are to deliver differentiated treatment, intelligent customer interaction and drive self service automation across all channels. Project goals will be achieved through the implementation of upgraded technology and functionality to increase self service. The project deliverables are implemented in phases which enable and complement each other as well as the other Customer Care projects. The Interactive Voice Response (IVR) system will be replaced to address technology obsolescence and standardize SoCalGas and SDG&E on a common platform, driving development efficiencies, and positioning SEu for advanced speech recognition capabilities. The project will develop a customer experience blueprint and utilize it to prioritize and enhance self-service targets and effectively deploy enabling speech/natural language capabilities across multiple channels. Online service offerings will be expanded to include turn-on, turn-off and changeover of utility services, ordering appliance servicing and establishing or changing payment arrangements online similar to the IVR system.

Operational Insight Analytics (OIA)

The objectives of the Operational Insight Analytics project are to establish the capability to drive on-going analysis-based operational improvements and visibility to transform how customers interact with the company to increase operational efficiency and enable increases in the self service rate. It will automate current manual efforts by delivering end-to-end understanding why customers are interacting with SEU, how they interacting and our ability to satisfy requests, and enables SEU to leverage critical customer intentions insight necessary to deliver an intelligent customer experience. The systems and processes implemented will enable the company to address sub-optimal customer contact and make self service a positive experience for customers. Technology solutions will be implemented to conduct automated forms of analytic insight with respect to contact/web channel, operations, customer intentions and customer behavior. The systems implemented will leverage intentions-based data analysis by converting and mining quality recorded interactions. The project will provide analytical information and processes to be able to operate more efficiently by better understanding our operations, customer intentions, and communication channels; establish the capability to drive on-going "analysis-based" operational improvements and visibility to transform how customers interact with SEu.

Single View of the Customer (SVOC)

The objective of the Single View of the Customer (SVOC) project is to enable a consolidated view of customer attributes from across the enterprise, inclusive of all channels. It will capture and integrate customer information, e.g., contact history, key attributes-language, premise inventory, behavior, demographics, programs, and needs, from across all interaction touch-points and disparate customer systems and provide this information in a fully integrated solution. The technologies and processes implemented will enhance interaction with the customer, drive intention-based handling strategies and increase understanding of what is happening with the customer. The project will develop a single view of the customer by enhancing legacy customer information systems, building out the presentation layer for the SoCalGas Customer Information System (CIS), adding a new user interface for the SDG&E Customer Information System (CISCO), implementing CRM for market and sell functionality and building out analytics.

Care Representative of the Future

The objective of the Care Representative of the Future is to addresses challenges of commuting across the territory by placing Customer Service Representatives ("CSR") closer to where they live, and reducing the number and size of centralized Customer Service facilities. This project is a pilot to

test the subtleties of a remote/distributed working environment. It will focus on a combination of small satellite office centers and/or agents working directly from home office contact centers. It will provide the CSR with knowledge, learning assets, internal/external content, expert collaboration, personal and group productivity tools and, knowledge performance dashboards. The results of this project will be used to determine the future potential of a broader implementation of distributed agents. Productivity benefits and reduced facility costs may be achieved in a future implementation by leveraging at home agents, intelligent desktops, agent productivity tools, collaborative customer interaction technologies, and real-time language translation

Field Force Projects

Supervisor Enablement

The objective of the Supervisor Enablement project was to transform the role of the field supervisor to focus on safety, management of field operations, and crew proficiency and productivity. The project included the implementation of cultural, process, organizational and technology changes to increase supervisor time in the field, improve management effectiveness, and enhance the supervisor position to attract and retain talent. It was strategically implemented early in the OpEx 20/20 timeframe to establish a foundation for subsequent Field Force projects. The project will; reduce administrative burden of supervisors and increase the time spent in field via automation; reduce, automate, or eliminate administrative tasks and; provide ready access to relevant information in the field – to increase supervisor effectiveness and drive crew productivity and safety. The Supervisor Enablement project provides supervisors with the initial tools, skills and processes to more effectively support the technology, processes and cultural changes necessary to support achievement of the benefits later in the Field Force Maintenance and Inspection and Construction projects.

Maintenance & Inspection (M&I)

The objectives of the Maintenance and Inspection (M&I) project are to employ new technology and processes to streamline and automate inspection and maintenance order generation, reconciliation and closure; provide one resource management approach and tool across all work types and service areas for scheduling and dispatch and; leverage communications networks, MDT and GPS technology to reduce paper-based tasks and provide access to back-office systems. This project is composed of 3 separate, yet highly integrated systems and applications that support the SoCalGas and SDG&E, gas and electric distribution end-to-end inspection and maintenance processes.

1) Work Management (WM) – The Work Management system will replace 9 distinct applications currently in place at SoCalGas and SDG&E. The objective of the WM system is to transform back-office M&I work management processes to enable the management of paperless, real-time asset, work, and crew information required to drive back-office and field productivity improvements. The system will; provide a centralized, enterprise asset repository with accurate and real-time asset information integrated with work history and spatial data; enable automation and integration of all M&I work; enable groupings of work based on geography, priority, need dates and skill requirements; automate pre-requisite management; leverage cost measurement and resource planning to optimize unit costs and; improve accuracy of cost accounting through the integration of WM and financial systems.
2) Forecasting, Scheduling and Dispatch (FSD) – Forecasting, scheduling and dispatch of gas and electric distribution M&I work is currently done manually every day by hundreds of supervisors at SoCalGas and SDGE. The objective of the FSD system is to implement planning, scheduling and routing to drive improvements in crew utilization and productivity. The system will; provide one resource management approach across all work types and service areas; automate assignment of work based on skill and geography; provide a single view of all work orders; provide daily and weekly schedules and routing, as well as real-time fill-in work; integrate real-time crew location with dispatching system to reduce travel time and time to emergency work and; formalize prioritization of customer, regulatory and internal work commitments.
3) Mobile – Inspection and maintenance orders are completed and documented in a variety of ways at SoCalGas and SDG&E that are largely manual and paper-based. The objective of the Mobile system is to leverage communications networks, MDT and GPS technology, mobile GIS, and work order and timesheet automation, to drive crew and back office productivity. The system will; reduce or eliminate paper-based tasks, i.e., timesheet completion, job closure, asset updates; enable the generation of orders in the field; enable ability to provide fill-in work; integrate GPS to manage crew routing and performance and; integrate MDTs with back-office systems.

Construction

The Construction project is the logical extension of the M&I project. While the M&I system focuses on the segment of the asset lifecycle after it is installed in the field and prior to it's

replacement or retirement, the Construction project manages the planning, design, construction and eventual replacement or retirement. The objectives of the Construction project, similar to the M&I project, are to employ new technology and processes to streamline and automate the planning, design, construction, reconciliation and closure processes; provide one resource management approach and tool across all work types and service areas, integrating M&I and construction activities, for scheduling and dispatch and; leverage communications networks, MDT and GPS technology to reduce paper-based tasks and provide access to back-office systems. The Construction project leverages the same software applications implemented in the M&I project and like that project, includes 3 systems based on the enterprise applications implemented in the M&I project. In addition to these 3 systems, this project includes a 4th separate application included to support the graphical design component of the construction process.

1) Work Management (WM) – The Work Management system will replace 2 applications currently in place at SoCalGas and SDG&E. Similar to the M&I project, but focused on the construction process, the objective of the WM system is fundamentally the same, to transform back-office work management processes to enable the management of paperless, real-time asset, work, and crew information required to drive back-office and field productivity improvements. The system will utilize the centralized, enterprise asset repository established in the M&I project and in addition to the functionality enabled in the M&I project will; effectively manage dependencies, i.e., site readiness, ROW, HAZMAT, etc.; leverage cost measurement and resource planning to optimize costs, i.e., company crew/contractor mix, unit cost, etc.; improve materials management through the integration with supply management systems; provide for consistent and accurate estimation and planning and; provide unit cost and performance management capabilities across company and contractor crews.
2) Forecasting, Scheduling and Dispatch (FSD) – Forecasting, scheduling and dispatch of gas and electric distribution construction work is done using a variety of methods and tools. The objective of the FSD system is to implement planning, scheduling and routing systems and processes implemented in the M&I project to achieve the same types of benefits in this project. The result will be a single view of all work orders, inspection, maintenance and construction with one resource management approach; ability to perform long term forecasting, short term work optimizing and immediate dispatching of work; integration of

planning processes with annual asset management plans and; regular consolidated resource planning across processes and work force, both company crew and contractor.

3) Mobile – Similar to inspection and maintenance orders, construction orders are completed and documented in a variety of ways at SoCalGas and SDG&E that are largely manual and paper-based. The same Mobile application, systems and processes implemented for M&I will be leveraged for construction with the same primary objectives to leverage communication networks and reduce or eliminate paper-based tasks. Additionally, in the Construction project, the Mobile system will provide mobile design tools for redlining as-builts in the field and provide for paperless asset and mapping updates
4) Graphic Work Design (GWD) – The Graphic Work Design system will replace 4 applications currently in place at SoCalGas and SDG&E. The objective of the GWD system is to automate the design process and enforce design standards through the implementation of an enterprise design tool, integrated with WM and GIS, to reduce material costs, reduce re-work and improve back-office productivity. The system will; integrate labor standards, material standards and financial accounting in a geospatial environment; enable routine designs utilizing automated design tools and standard compatible unit design templates; reduce work closure tasks and; automate mapping tasks after work closure.