Company: Southern California Gas Company (U 904 G)
Proceeding: 2024 General Rate Case
Application: A.22-05-_____
Exhibit: SCG-13

PREPARED DIRECT TESTIMONY OF

EVAN D. GOLDMAN

(CUSTOMER INFORMATION SYSTEM REPLACEMENT PROGRAM)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

May 2022

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APPENDICES

SUMMARY

CIS REPLACEMENT PROGRAM (In 2021 $)			
A. CS - CIS Replacement Program	**2021 Adjusted-Recorded (000s)**	**TY2024 Estimated (000s)**	**Change (000s)**
1. CS - CIS Replacement Program	$ 1,815	$ 20,247	$18,432
Total	**$ 1,815**	**$ 20,247**	**$ 18,432**

Southern California Gas Company (SoCalGas or the Company) requests the California Public Utilities Commission (CPUC or Commission) adopt its General Rate Case (GRC) forecast of $20.2 million for 2024 for operations and maintenance (O&M) non-shared services activities for SoCalGas's Customer Information System (CIS) Replacement Program. SoCalGas further requests the Commission adopt its Capital forecast of $4.9 million, $2.7 million, $93.3 million, $74.1 million, and $46.6 million for capital expenditures in years 2022, 2023, 2024, 2025, and 2026, respectively, for SoCalGas's Customer Information System Replacement Program to be included within the Post Test Year Ratemaking request of Khai Nguyen (Exhibit SCG-40).

SoCalGas's legacy CIS is a large-scale information technology system that was implemented decades ago and is rapidly approaching obsolescence. CIS is foundational to serving SoCalGas's 5.9 million accounts and 21.8 million customers. CIS supports SoCalGas's critical customer service business processes and customer engagement functions, including: calculating and generating over 70 million bills per year; processing 55 million annual payments; supporting more than 12 million customer interactions (*e.g.,* phone, web, branch office); and managing credit, collections, and account receivables. CIS also supports meter data; service orders; account management and customer care; rates and programs; and customer information. The obsolete technology of the legacy CIS is difficult to maintain and enhance, and overdue for replacement. SoCalGas must replace its outdated CIS with a new, modernized CIS platform to enable implementation of increasingly complex California regulatory requirements and keep pace with the rapidly changing energy industry and evolving service demands of customers. Replacing CIS will elevate the service and support customers receive. For example, the new CIS will allow for a more customer-centric way of doing business by moving all customer data to one consolidated location, enabling SoCalGas to more effectively implement new programs and services providing customers with significantly improved experiences. The new system will also

support deployment of new features and functions, offering greater configurability and flexibility, and will make implementation of mandated changes quicker and more cost-effective.

PREPARED DIRECT TESTIMONY OF
EVAN D. GOLDMAN
(CUSTOMER INFORMATION SYSTEM REPLACEMENT PROGRAM)

I. INTRODUCTION

A. Summary of Customer Information System Replacement Program Costs and Activities

My testimony describes SoCalGas's plans to replace its current (legacy) CIS and supporting subsystems. At the time of the proposed implementation of a new CIS system, SoCalGas's legacy CIS will have been operating for over 30 years and based on technology that will be over 40 years old.[1] CIS is the technology foundation of numerous critical operations within the SoCalGas Customer Services organization, and it is important that the legacy system is replaced prior to experiencing the types of failures encountered by comparable utilities using similarly aged systems. Implementing a new CIS will enable the capability and agility necessary to meet evolving business and regulatory requirements while also supporting climate goals and providing enhanced cybersecurity. In addition, a new CIS will allow SoCalGas to provide modern customer service experiences not possible in the legacy system. The replacement is anticipated to start in 2024 and go in service in 2026. My testimony and supporting workpapers include O&M and capital forecasts for the CIS Replacement Program, which includes planning, implementing, and stabilizing the new CIS. Test Year O&M forecasts reflect a normalization of the estimated O&M costs over the rate case period (2024-2027). The capital forecasts reflect expenditures anticipated to be incurred until implementation is completed in 2026. The rationale for and details of SoCalGas's proposal to replace its CIS and related subsystems are discussed in more detail below. Table EG-1 summarizes my sponsored O&M costs.

[1] SoCalGas's legacy CIS is based on Andersen Consulting (Accenture) Customer/1 software originally developed in 1985.

TABLE EG-1
Test Year 2024 Summary of Total O&M Costs

CIS REPLACEMENT PROGRAM (in 2021$)			
O&M	**2021 Adjusted-Recorded ($000)[2]**	**Estimated TY 2024 ($000)**	**Change ($000)**
Non-Shared	$ 1,815	$ 20,247	$ 18,432
Shared	$ 0	$ 0	$ 0
Total O&M	**$ 1,815**	**$ 20,247**	**$ 18,432**

CIS is the critical and foundational information technology system facilitating core customer service transactions and account management for SoCalGas's customers. CIS manages essential functions including billing calculations, payment processing, and credit and collections activity. It is the primary system used by Customer Services Representatives (CSRs) when interacting with customers, and it provides the underlying data and information to support the Company's Interactive Voice Response (IVR) and Digital channels ("My Account"). In addition, the system generates most service orders requested by customers for completion by the Customer Services Field (CSF) team. CIS integrates with more than 50 systems across multiple departments. Many of the integrated systems, including Meter Data Management System, Workforce Management System, and various external payment processing systems, depend on CIS as their key data source for information about SoCalGas customers and their interactions with the utility.

SoCalGas's legacy CIS is an outdated, mainframe-based system implemented in 1996 as a customized version of Andersen Consulting's (now Accenture) Customer/1 CIS software. CIS was built with technologies including Mainframe COBOL, DB2, and Smalltalk. The legacy CIS was developed to support business processes in place at that time, including manual meter read and paper billing, with most transactions occurring in person at branch offices, via U.S. mail, or by phone. The legacy CIS is designed around premise or location of service, as opposed to modern systems, which are designed as "customer-centric." Limitations associated with SoCalGas's premise-based system include lack of flexibility to deliver personalized service, as the system is not designed to easily capture or use customer-specific preferences for communications, engagement channels, and programs. The premise-based system also limits the

[2] The 2021 adjusted recorded expenses are costs to complete a CIS replacement study.

ability to maintain multiple customer relationships for one account. In contrast, a customer-based system allows for targeted communications to multiple contacts at a premise, *e.g.*, specific communication to a business's account manager regarding billing and separate communication to the facilities manager regarding energy usage.

Over the decades since implementation, the legacy CIS has become increasingly complex and difficult to support as it has been continuously modified to meet evolving regulatory, legislative, customer, and business driven changes. For example, the system changes required to comply with the California Consumer Privacy Act (CCPA) were challenging and time-consuming to implement due to the multiple and varied systems that currently house customer information. The CCPA provides consumers the right to make formal requests to know how their data is being used; to know the categories of information a business collects, shares, and sells; to request deletion of personal information (when the information is not exempted); to download personal information; and to opt out of the sale of personal information. Lack of centralized customer data makes the data collection, retrieval, and deletion process particularly challenging and time-consuming in the legacy CIS environment. The efforts and manual processes required to comply with CCPA would not have been as complex with a modern CIS.

SoCalGas's customer data is currently not stored in a single location due to extensive modifications and new integrated subsystems that have been added since the legacy CIS was implemented. The lack of centralization prevents a real-time comprehensive view of customer data and therefore limits opportunities to provide personalized and more efficient customer experiences. Rapid advances in technology require a flexible and agile CIS to allow for timely response to regulatory requirements, customer expectations, and emerging business needs. SoCalGas's proposed solution to replace CIS will enable more effective and efficient implementation of new requirements and provide customers with an improved, customer-centric service experience.

In the TY 2019 GRC, SoCalGas requested and was authorized funding to study the replacement of CIS.[3] To assist with the study, SoCalGas hired Accenture, a multinational Fortune Global 500 professional services company that specializes in information technology

[3] 2019 GRC, Workpapers to Prepared Direct Testimony of SoCalGas Witness Christopher R. Olmsted (Exhibit SCG-26-WP) at 6.

services and consulting. Accenture has implemented more than 250 CIS solutions in the global utility industry over the past 40 years and is currently supporting delivery of the five largest CIS programs in the world. Accenture's established framework was leveraged to assess the legacy CIS and to examine the importance of and rationale for replacement. The assessment by SoCalGas and Accenture determined that further investment in the existing CIS platform will build upon a system that is already technically obsolete and very complex to maintain and enhance. The assessment concluded that replacing the legacy CIS was the best strategy. Key drivers for CIS replacement include:

- solving the problems of technology obsolescence and complexity with the legacy CIS;
- establishing a technology platform that can meet future business and regulatory requirements;
- implementing a "living" system that is sustainable, upgradeable, and resilient;
- enabling modern customer experiences to meet changing customer expectations; and
- evolving customer relationships in support of SoCalGas's ASPIRE 2045 climate commitment.

Replacing SoCalGas's aging legacy CIS is consistent with the investments of industry peers. All large investor-owned utilities in California and more than 80% of comparable utilities in North America have either replaced or are in the process of replacing their legacy CIS. The importance of replacing SoCalGas's legacy CIS along with a discussion of proposed timing, scope, and cost of implementation is discussed in greater detail within my testimony.

B. Support To and From Other Witnesses

My testimony also references the testimony and workpapers of several other witnesses, either in support of their testimony or as referential support for mine. These include the following:

- Information Technology Modernization Policy testimony of Ben W. Gordon (Exhibit SCG-02, Chapter 1);
- Sustainability Policy testimony of Michelle Sim (Exhibit SCG-02, Chapter 2);
- Rate Base testimony of Patrick Moersen (Exhibit SCG-31); and
- Post-Test Year Ratemaking testimony of Khai Nguyen (Exhibit SCG-40).

C. Organization of Testimony

My testimony is organized as follows:

- Introduction
- Importance of implementing new CIS
- Sustainability
- Risks associated with sustaining and modifying existing system
- Timing of CIS replacement
- Selection of new CIS
- Solution plan and scope
- Implementation plan and costs
- Conclusion.

II. IMPORTANCE OF IMPLEMENTING NEW CIS

SoCalGas's legacy CIS has become challenging to maintain and enhance. Technology obsolescence, implementation of increasingly complex regulatory requirements, and an exponential increase in the amount of data processed in the CIS system have all contributed to maintenance and operational challenges. A significant number of new CIS subsystems and integrations between the legacy CIS and other systems have also been added over the years as the energy market, regulatory requirements, and the relationship between the customer and the utility has transformed. As a result, SoCalGas faces increased risk of system instability and even system failure.

Over nearly three decades, layer upon layer of complex customizations and integrations have made it challenging to maintain and continue to enhance the legacy CIS. In addition, as the system ages, the number of technical resources with critical knowledge of the legacy CIS programming languages and support tools continues to shrink. Resources with the institutional business knowledge and experience necessary to operate and maintain the system are also becoming scarce. Implementing a new CIS on a modern, widely used software platform will increase the pool of resources with the technology and business skills to support future development and operations.

Modern CIS solutions reduce uncertainty and risk while increasing modularity[4] and flexibility because they are configurable and because changes can generally be implemented more efficiently than with custom-developed applications. Packaged CIS solutions are also regularly updated and enhanced by the software vendor to reflect industry best practices and based on input from clients.

In contrast, making and deploying changes, enhancements, and fixes to the legacy CIS is increasingly difficult, risky, and time-consuming due to the complexity of the system. Each change increases the probability of introducing new defects and adds to the time and effort required for testing. To support this level of testing, a large number of test environments with supporting test data must be built and regularly maintained. In addition, deploying updates to the legacy CIS requires a multi-step manual process to distribute the software to over 3,000 Company desktops and laptops. Every software release requires approximately four weeks of testing to minimize chances of an emergency fix and subsequent re-distribution if the updates introduce system issues. A modern CIS solution will simplify the implementation of changes, reduce testing time, reduce time spent on test environment maintenance and software distribution, and reduce the risk of introducing defects.

A new CIS will also allow SoCalGas to more efficiently implement new regulatory, legislative, and business driven requirements. For example, in June 2020, the Commission issued Decision (D.) 20-06-003 adopting several new rules and processes intended to reduce the number of residential customer disconnections. To comply with this regulatory decision, SoCalGas faced multiple challenges in making significant changes to long-standing business processes across multiple legacy CIS sub-systems. These changes required lengthy and complex modifications to the legacy CIS involving numerous system-specific resources and expertise. Time-consuming manual processes were often necessary until system changes could be implemented.[5]

Implementation of the Arrearage Management Plan (AMP) specified in D.20-06-003 posed significant challenges for SoCalGas. AMP offers qualifying customers the opportunity to

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[4] Modular programming usually makes software easier to understand and maintain by separating the software into functions that each only deal with one aspect of the overall functionality.

[5] Manual processes can also be more prone to human error.

have their past due balances forgiven in exchange for regular on-time payment of current balances. AMP necessitated several complex business rules including specific eligibility requirements, enrollment processes, communications requirements, participation requirements, and a debt forgiveness mechanism. The complex structure of AMP proved difficult and time-consuming to implement in the legacy CIS. Until system changes could be implemented, SoCalGas developed a temporary solution requiring a dedicated team of eight employees. The team used manual processes for AMP participant intake and administration until fully automated AMP processes were in place. Similarly, when mandated by the CPUC to automatically enroll eligible customers into 24-month COVID-19 relief payment plans,[6] SoCalGas needed double the time required by San Diego Gas and Electric (SDG&E) to implement the changes in their new modern CIS.

The difficulties and risks of implementing mandated changes in the legacy CIS have also impacted SoCalGas operations. In March 2020, SoCalGas implemented changes to temporarily suspend deposits and collections activity for residential and small business customers as part of its compliance with the COVID-19 Emergency Customer Protections.[7] The legacy CIS was not designed to accommodate customers who were unable to pay for the extended periods of time experienced during the COVID-19 pandemic or to stop the automated process of collecting deposits. Implementation of deposit and collection suspensions affected the complex financial, billing, and collections processes within the legacy CIS. The impacts of these changes were significant and required extensive manual remediation by business and IT resources.With a new CIS, SoCalGas does not anticipate facing these same types of challenges and will be able to more effectively and efficiently implement new regulatory requirements.

SoCalGas and its customers will also benefit from continuous innovation, enhancements, and support inherent to modern packaged software solutions. Modern CIS platforms have built-in upgrade roadmaps that offer pathways for growth; they are built on cloud platforms that provide scalability, stability, and resilience that may not be possible with the legacy technology. Upgrading to a modern CIS will result in a "living" system that is sustainable and upgradeable.

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[6] D. 21-06-036, Ordering Paragraph (OP) 2.

[7] *See* SoCalGas Advice Letter 5604-G-B, Implementation of Emergency Customer Protections to Support California Customers During the COVID-19 Pandemic Pursuant to Resolution M-4842 (June 22, 2020) *available at*: https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/5604-B.pdf.

Implementing a modern CIS also aligns with the SoCalGas information technology strategy as outlined in the Information Modernization Technology Policy of Ben W. Gordon (Exhibit SCG-2, Chapter 1). A modern CIS supports the IT strategy of simplifying and standardizing infrastructure and applications; proactively managing lifecycle and cyber risk of infrastructure and applications; transforming how the organization works to increase speed; embracing a culture of innovation and constant learning; and accelerating digital.

In addition to meeting business and regulatory needs, a modern CIS will meet the service and data access expectations of customers. The SoCalGas CIS serves as the primary source of information for CSRs and branch office staff, and it provides the underlying information supporting the IVR and digital customer experience channels. Customer data in the legacy CIS is housed in various subsystems, which limits SoCalGas's ability to efficiently access and analyze customer data and provide personalized customer service. Centralized data and improved analytics capabilities in a modern CIS will allow for efficient and tailored customer-centric experiences with consistency across engagement channels.

A modern CIS will also provide a platform to manage all customer communications and notifications. Understanding if, when, and how customers respond to messaging sent through various channels will enable SoCalGas to communicate with customers more effectively. The legacy CIS is limited in its ability to track and understand customer interactions with SoCalGas and identify where customers' experiences may not be optimal. These limitations restrict SoCalGas's ability to make enhancements to reduce customer pain-points and meet customer expectations.

A modern CIS can support analytics of customer behaviors and interactions, and the resulting insights will enable targeted customer experiences and personalized program option information delivered through multiple customer engagement channels. For example, when on the phone with a customer, a customer service representative will be able view all programs available to that customer. The representative can then engage, educate, and offer personalized support to help make customers aware of and understand relevant programs.

SoCalGas is committed to consistently providing safe, secure, efficient, reliable, and effective customer service. Many organizations across the private and public sectors have significantly invested in improving customer service to make interactions simpler, faster, and more convenient for customers. These investments and the resulting customer service

experiences have raised customer expectations for all providers, including SoCalGas. While SoCalGas is proud of its commitment to customer service, it is becoming more challenging to meet customer expectations given the age and limited capabilities of its legacy CIS. The inability to provide a comprehensive view of customer data creates obstacles to providing a consistent and positive customer experience. For example, the legacy CIS cannot store centralized payment information, which restricts the ability of customers to seamlessly make payments using their preferred channels or across a variety of different channels over time. Customers currently may have to establish their preferred way to pay multiple times, depending on whether the customer is accessing their account through web, mobile, interactive voice response (IVR), or the contact center. A modern CIS will allow customers' designated payment preferences to be reflected consistently across all channels. Multi-channel payment capabilities simplify the customer experience and make it easier for customers to make timely and accurate payments, and to access and maintain their payment information.

III. SUSTAINABILITY

The activities described in this testimony advance the state's climate goals and align with SoCalGas's sustainability priorities as described in the Sustainability testimony of Michelle Sim (Exhibit SCG-02, Chapter 2) and in the *ASPIRE 2045 SoCalGas Sustainability Strategy*. Specifically, the proposed CIS Replacement Program will support progress in the sustainability focus areas of:

- Accelerating the Transition to Clean Energy
- Protecting the Climate and Improving Air Quality in Our Communities
- Increasing Clean Energy Access and Affordability
- Advancing a Diverse, Equitable, and Inclusive Culture

Implementation of a modern CIS will improve SoCalGas's ability to more quickly support and enable new products and services related to clean fuels delivery, customer decarbonization, greenhouse gas emission reduction, and energy affordability in alignment with the key SoCalGas sustainability focus areas listed above. In addition, the comprehensive customer information enabled by a new CIS platform will allow SoCalGas to shift from more transactional customer relationships to more influential relationships, which can help drive adoption of such new offerings.

The following are some more specific examples of envisioned CIS Replacement Program capabilities and how they can support one or more of the sustainability and climate policy focus areas:

- New Customer Relationship Management capabilities to support SoCalGas Account Executives in engaging with Commercial & Industrial customers on achieving reductions in greenhouse gas emissions related to their energy consumption, electric generation, and fleet/logistics activities.
- Advanced data analytics and marketing segmentation tools to help proactively target customers for adoption of clean fuels programs (such as Renewable Natural Gas (RNG) or Hydrogen).
- Next Best Action capabilities to prompt customer facing employees or self-service channels to promote customer decarbonization or greenhouse gas emission reduction opportunities as appropriate.
- Enabling a new centralized information hub to hold customer characteristics and preferences to help SoCalGas address specific customer needs through their preferred channels. This can support improved equity and inclusion outcomes with respect to energy affordability, access to clean energy, and increased economic opportunity across the diverse communities of customers served by SoCalGas.

IV. RISKS ASSOCIATED WITH SUSTAINING AND MODIFYING EXISTING CIS

The age and limited capabilities of SoCalGas's legacy CIS have made it increasingly challenging for SoCalGas to support the needs of its customers. Highly customized functions and the addition of numerous integrated systems over the decades since CIS was first implemented have significantly increased the complexity and fragility of the legacy systems landscape. Customized programming necessary to implement new regulatory, legislative, and business driven requirements over the years has resulted in a collection of very complicated and tightly coupled systems in which each new change requires increased time, resources, and risk to implement. This has resulted in a diminished ability to quickly and efficiently implement regulatory and business requirements (often requiring interim manual solutions), limited capabilities to provide premier customer service experiences, greater potential for system failures, and increased maintenance costs.

Long modification and enhancement lead times remain a continued risk with SoCalGas's legacy CIS. Other major California utilities have implemented modern CIS solutions. Without a similar CIS replacement, SoCalGas will be more challenged to implement regulatory and business driven changes in a timely manner compared with peer California utilities. In addition, costs to maintain the outdated technology are likely to increase, and operations will become less efficient due to increasing manual workarounds, system maintenance, and patches.

If SoCalGas does not replace its legacy CIS, it will become increasingly difficult to support CPUC requirements. Future mandated billing and rate requirements and implementation of new programs may require significant time and costs if deployed on legacy systems. At the extreme, market conditions or regulatory mandates could necessitate a system change that would be impossible to implement in the existing CIS leaving no immediate path forward and possibly resulting in regulatory infractions and fines.

In addition, the existing CIS limits the ability of SoCalGas to deliver technology-based customer service improvements to meet customer needs and expectations. Lack of centralized data contributes to technology complexity and prevents a holistic, real-time view of customer data. Such data constraints of the existing CIS limit the understanding of customers necessary to deliver the expected modern service experience. For example, the legacy system lacks the centralized data source and platform necessary to access, update, and share real-time customer data to all departments, systems, and processes that require it, or to centrally manage all customer communications and customer channel preferences. In contrast, a new CIS with this ability will allow SoCalGas to be better able to proactively understand and respond to customer needs and engage with them in ways and on platforms that they most prefer.

Given known challenges with similarly aged mainframe systems at other utilities,[8] SoCalGas intends to proactively replace its legacy CIS before significant system failures begin.

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[8] SDG&E and Southern California Edison (SCE) each have experienced outages in their legacy CIS. *See* A.17-04-027, Prepared Direct Testimony of SDG&E Witness Scott Crider, *available at*: https://www.sdge.com/sites/default/files/Chapter%25201%2520%2520Prepared%2520Direct%2520Testimony%2520of%Scott%2520Crider.pdf; Prepared Direct Testimony of SDG&E Witnesses Charlie Snyder and Christopher Swartz, *available at*: https://www.sdge.com/sites/default/files/Chapter%25202%2520Prepared%2520Direct%2520Testimony%2520of%2520Charlie%2520Snyder%2520and%2520Christopher%2520Swartz.pdf; A. 21-07-009, Direct Testimony in Support of Southern California Edison Company's Request for Authorization to Recover Costs Recorded in its Customer Service RePlatform Memorandum Account

CIS failures could result in similar outages to those experienced by other utilities operating with aged systems. Such failures may also have significant financial and operational impacts including billing disruption, delayed revenue, increased IT support costs, reduced customer service levels, diminished quality of customer experience, and increased customer complaint calls. CIS and its related subsystems have become increasingly complex and fragile after years of customization. Implementing even minor system changes carries a risk of negatively impacting system functionality.

SoCalGas also risks continued increasing costs associated with maintenance of outdated technology and limited availability of technical expertise. The system's increasingly complex and brittle architecture lacks automated or built-in upgrade pathways and requires time-consuming maintenance, upgrade, and integrations work. The diminishing availability of technical personnel who have knowledge of the custom-developed system or expertise in the obsolete mainframe technology also adds to the risk of operating the aging system. Further, the combination of obsolete technology platforms and languages and a rapidly retiring workforce creates an elevated risk of critical and irreplaceable knowledge loss.

Limitations in the legacy CIS prevent integration with and availability of data among various systems, channels, and processes. Data is neither stored centrally nor universally available on a real-time basis to all departments, systems, and processes that need it. Rather, relevant data is stored in multiple database systems and integrated via queries upon request. Compiling and analyzing data from disparate sources is time-consuming and challenging as are the manual workarounds, maintenance, and patches required in the outdated legacy CIS.

V. TIMING OF CIS REPLACEMENT

At the time of the CIS replacement implementation, SoCalGas's legacy system will be over 30 years old. The operational challenges and risks associated with the outdated system necessitate that SoCalGas move expeditiously to implement a modern CIS. SoCalGas has started the pre-planning process for the CIS Replacement Program and proposes to begin the implementation project in 2024 and "go-live" with the new CIS in 2026. Planned deployment of

– Track 1 (Costs Through April 2021) at 6-8, *available at*: https://docs.cpuc.ca.gov/PublishedDocs/SupDoc/A2107009/3923/394807240.pdf.

the new SoCalGas CIS would occur five years after the recent CIS implementations by SCE, SDG&E, and Southwest Gas.

When determining the timing of the CIS Replacement Program, SoCalGas also considered future capital requirements and operational impacts of a forthcoming Advanced Meter Replacement Program. SoCalGas's original Advanced Meter infrastructure will start to reach the end of its expected life, and a replacement program is anticipated to begin in 2030. The combined capital requirements for CIS and Advanced Meter Replacement Programs should be coordinated carefully to mitigate overall rate impacts for customers. Implementing both replacements concurrently would create program and operational risks due to the significant scope, size, and complexity of each effort. For example, both CIS and Advanced Meter Replacement Programs will depend on many common subject matter experts for requirements development, design, and testing. Based on past experiences at SoCalGas and other utilities, both programs will also require management of increased billing exceptions and billing backlogs until systems and processes are stabilized after implementation. Executing both CIS and Advanced Meter replacements at the same time could introduce an unmanageable number of billing exceptions and unacceptable resolution times for billing backlogs. Starting the CIS Replacement Program in the 2024 GRC timeframe mitigates issues involved with concurrent implementation of these two major Customer Services programs.

VI. SELECTION OF NEW CIS

To determine potential CIS replacement options, an initial solution list was developed leveraging industry analyst research, Accenture's expertise, and SoCalGas's specific business requirements. Potential CIS solutions were evaluated for suitability against multiple criteria including utility size, geography, market type, high-level functionality, and product relevance to the utility sector.

The initial CIS solution list was narrowed to a short list of solution options by referencing the solutions implemented by the largest 25 utilities[9] in North America. The short list options were then scored against a set of functional, technical, and cost criteria. Consideration was also given to alignment with other major software systems deployed at SoCalGas and Sempra. Based on the detailed evaluation, SoCalGas selected the cloud-based CIS solution from software

[9] Size by number of meters.

vendor SAP SE (SAP) as the most suitable CIS replacement option. SAP is the core financial, accounting, and enterprise resource planning solution for both SoCalGas and SDG&E, and SDG&E also recently implemented SAP to replace its legacy CIS.

The SAP CIS solution aligns with the SoCalGas and SDG&E IT strategy. As discussed in the Information Technology Modernization Policy testimony of Ben Gordon (Exhibit SCG-2, Chapter 1), the four pillars of the IT strategy include simplifying and standardizing infrastructure and applications, proactively managing risk, transforming work to increase speed, and accelerating digital to prepare for rapid delivery of innovation. Cloud technologies like the SAP CIS solution enable such innovation and are a cornerstone for the digital enablement that drives faster business solutions.

SoCalGas intends to leverage lessons learned, best practices, and other key takeaways from the SDG&E CIS replacement project. SAP's utility experience extends far beyond SoCalGas and SDG&E. SAP is used by more than 1,000 utilities worldwide serving more than 500 million customers. SAP solutions can support both the volume of SoCalGas customers and the complexity of large customer tariffs and billing scenarios**.**

VII. CIS SOLUTION PLAN SCOPE

After selecting SAP as the most suitable CIS replacement option, SoCalGas and Accenture developed a CIS Solution Plan to identify the business and technical scope (*e.g.*, business processes, systems interfaces, reports, etc.) of the CIS Replacement Program. The CIS Solution Plan is based on Accenture's SAP CIS solution framework that has been leveraged at multiple utilities across North America. The CIS Solution Plan identifies an inventory of 89 known business processes to include within the scope of the CIS Replacement Program. SoCalGas then cross-validated the CIS Solution Plan inventory against current customer service business processes plus future desired business capabilities. The CIS Solution Plan identifies 21 systems or subsystems that will be replaced by the new CIS, 6 systems that will be modernized, and 55 systems that will require integration. The CIS Solution Plan also identifies specific requirements for implementing the SAP CIS solution at SoCalGas. These requirements, called "RICEFWs,"[10] are a common method of planning and estimating SAP implementation efforts.

[10] RICEFW stands for Reports (R), Interface (I), Conversion (C), Enhancements (E), Forms (F) and Workflow (W).

The CIS Solution plan includes an accompanying Organizational Change Management (OCM) Plan to address organizational change management activities. Existing business processes have been developed to function in conjunction with the legacy CIS. Implementation of a new, modern CIS will result in significant changes to current business processes. Changes are anticipated for a wide variety of business processes across the customer services organization, including billing transactions and exceptions, administration of low-income assistance programs, management of customer move-ins, creation and execution of marketing campaigns, sending and receiving customer communications, and managing customer contracts. The OCM Plan determines the scope, volume, and types of change management activities needed to achieve the required adoption, utilization, and user proficiency of the CIS solution to be implemented. Organizational change management activities will continue through the 2026 go-live and stabilization.

VIII. CIS IMPLEMENTATION PLAN AND COST FORECAST

After completing and validating the CIS Solution Plan and OCM Plan, SoCalGas and Accenture then developed a CIS Implementation Plan and CIS Replacement cost forecast. Accenture has extensive experience planning and delivering similar CIS projects at many utilities in North America and worldwide, including SDG&E's CIS Replacement Program. Accenture's CIS estimation framework was tailored to the SoCalGas-specific CIS Solution Plan and OCM Plan to develop a project timeline, staffing model, and overall cost forecast. The CIS Implementation Plan and cost forecast outline program phases and durations, determine internal and external resources required for those phases, and calculate all costs required to achieve CIS replacement defined in the CIS Solution Plan and OCM Plan.

The CIS Implementation Plan outlines six phases over 39 months beginning with the Plan/Analyze Phase. During Plan/Analyze, SoCalGas will focus on clarifying responsibilities, expectations, and deliverable timelines for internal teams and vendor partners. Activities during this phase include planning and launching the program, confirming scope, finalizing resource needs, and establishing program governance tools and processes. The Plan/Analyze Phase also includes defining the technical architecture for the new CIS and integrated systems, as well as linking system requirements to business processes and creating business process designs. An analysis will be conducted to confirm and refine the RICEFWs initially identified in the CIS

Solution Plan. Finally, the Plan/Analyze Phase defines the approach for organizational change management, testing, and data conversion.

The Plan/Analyze Phase is followed by the Design, Build & Validate Phase. This phase involves the construction and configuration of the new CIS and its interfaces. During Design, Build & Validate, SoCalGas will optimize process flows and design intuitive user interfaces. Key activities during Design, Build & Validate include establishing and managing criteria for entry and exit between deliverables, creating system and functional designs, and developing the strategy for systems integration as well as reporting and analytics. The technical change management strategy is also included in the Design, Build & Validate Phase along with the approach to deployment. Most components required for implementation are developed during this phase, including the validation and rationalization of RICEFWs, reporting and analytics architecture, data integration and conversion frameworks, business process procedures, and the product test plan. The Design, Build & Validate Phase also defines security access roles and procedures. Change management activities within the organization commence during this second phase.

After Design, Build & Validate, the program moves into the Test Phase. Testing includes product, security role, reporting and analytics, and controls testing to validate that system functionality is in alignment with requirements and designs. During the Test Phase, the production environment is built, and dress rehearsals are held to practice conversion from the legacy system to the new CIS. The operational readiness testing approach and the go-live readiness criteria are also defined during this phase. Organizational change management activities include change readiness assessment, role mapping and testing, identifying and moving data into the training environment, and deploying training.

The Deploy Phase follows the Test Phase. During the Deploy Phase, SoCalGas will practice end-to-end cutover plans and production-like operational activities to validate go-live readiness criteria are satisfied. Testing will be conducted to confirm that processes and procedures meet business needs, including the accuracy of bills produced in the new system. The Deploy Phase includes a final dress rehearsal to confirm that the tasks, timing, and resources are prepared and ready for a successful go-live. Defects identified will be triaged and fixed. During the Deploy Phase, interim procedures are confirmed for operating during cutover. Organizational change management includes continued training, deployment of new and

modified jobs, and ongoing change readiness assessment in anticipation of go-live. Operational Assurance activities begin during this phase including incremental staffing to backfill key operations personnel while they participate in training on the new CIS solution. The Deploy Phase also confirms post go-live support and stabilization plans.

Post Go-Live Stabilization is the final phase of the program. It includes the activities of implementation project personnel to stabilize the system after implementation and continued incremental Operational Assurance staffing for the contact center, billing, and collections teams to help mitigate any potential productivity dips and expedite program stabilization after go-live.

SoCalGas will focus on minimizing operational disruptions and stabilizing as quickly as possible. Activities during Post Go-Live Stabilization include resolving defects and monitoring day-to-day system, operational, and business performance metrics. Post Go-Live Stabilization also monitors business intelligence and analytics to identify optimization opportunities. A handover plan is created, and the CIS solution is transferred from the implementation project team to the SoCalGas ongoing production support team.

The CIS Implementation cost forecast is further detailed in Sections IX and X below and considers the cost of the SAP software solution and the SoCalGas and vendor partner resources necessary for the design, development, testing, implementation, and stabilization of the solution outlined in the CIS Solution Plan. SoCalGas and Accenture developed the resourcing forecasts based on Accenture experience with numerous SAP CIS implementations, discussions with SDG&E and other utilities about resourcing of their CIS replacements, and analysis by SoCalGas subject matter experts. A significant driver of the cost forecast is the estimated number of RICEFWs. Table EG-2 outlines the estimated RICEFWs from the CIS Solution Plan.

Table EG-2

RICEFW Forecast	Total	Simple (S)	Medium (M)	Complex (C)
Reports (R)	80	12	47	21
Interface (I)	274	75	142	57
Conversion (C)	46	11	26	9
Enhancement (E)	204	22	95	87
Form (F)	41	17	20	4
Workflow (W)	4	0	2	2
Total Count	649	137	332	180
Total %	100%	21%	51%	28%

The cost forecast accounts for the resources necessary for each project phase to support implementation of CIS business processes, technical implementation of the new solution, change management and training support, project management, testing, and remediation and integration of legacy applications. Table EG-3 shows required staffing resource roles by workstream.[11]

Table EG-3

Workstream	Role Count
Functional	72
Technical	118
Change & Training	98
Project Mgt.	21
Testing	34
Legacy Apps	44
Total	**387**

Table EG-4 shows the labor and non-labor hours in each phase of the CIS Implementation Plan.

Table EG-4

	Plan/Analyze	DBV	Test	Deploy	PGLS	Total Hours
SoCalGas Hours	33,040	80,350	103,630	83,804	18,750	319,574
Contractor Hours	106,263	295,852	348,364	242,849	73,097	1,066,425
Total Hours	139,303	376,202	451,994	326,653	91,847	1,385,999

SAP software requirements and associated costs were identified based on consultation with both Accenture and SAP and input from SoCalGas subject matter experts.

The CIS cost forecast also includes quality assurance (QA) activities. SoCalGas plans to solicit a vendor partner to provide quality oversight for the entire CIS Replacement Program. The QA vendor will provide an independent and unbiased view of all work product and quickly raise risks to scope, schedule, budget, or quality. QA forecasted costs were developed based on

[11] Tables EG-3 and EG-4 do not include staffing resources for Operational Assurance or Quality Assurance. Costs for Operational Assurance and Quality Assurance are included in the total costs described below in Section IX.

consultation with SDG&E's CIS Replacement Program team and input from SoCalGas subject matter experts.

IX. NON-SHARED O&M FORECAST

TABLE EG-5
Non-Shared O&M Summary of Costs

TESTIMONY AREA (in 2021$)			
O&M	**2021 Adjusted-Recorded ($000)**	**Estimated TY 2024 ($000)**	**Change ($000)**
Non-Shared	**$ 1,815**	**$ 20,247**	**$ 18,482**

"Non-Shared Services" are activities that are performed by a utility solely for its own benefit. Corporate Center provides certain services to the utilities and to other subsidiaries. For purposes of this general rate case, SoCalGas treats costs for services received from Corporate Center as Non-Shared Services costs, consistent with any other outside vendor costs incurred by the utility. Table EG-5 summarizes the total non-shared O&M forecasts for the listed cost categories.

The TY 2024 O&M Request is based on the incremental project costs above Base Year 2021 recorded labor, which are added to determine total O&M funding requirements for the CIS Replacement Program. Test Year O&M forecasts reflect a normalization of the estimated O&M costs over the rate case period (2024-2027). The forecast method developed for the project costs is derived from the cost estimate prepared by personnel experienced in this type of work and with reference to recent projects of similar scope.[12]

A. Description of Costs and Activities

As outlined in the testimony above, these forecasted O&M expenditures reflect the need for evolving customer service capabilities to be implemented by the CIS Replacement Program in support of the Company's goal to build the cleanest, safest, most innovative energy company in America.

B. Forecast Method

The forecasting methodology for this project reflects a zero-based forecast for incremental project costs above Base Year 2021 because there is no regular historical average for

[12] *See* Ex. SCG-13-WP, Supplemental Workpaper 2CI000.000 for forecast details.

reference. Cost estimates were obtained from vendor partners and provided by personnel experienced in estimating projects with similar scope, schedule, and technical environments.

C. Cost Drivers

The forecast for labor and non-labor O&M is derived from the TY 2024 through 2027 four-year average cost for CIS Replacement Program O&M expenses. These expenses are comprised of activities described above within the CIS Replacement Program Implementation Plan Phases: Plan/Analyze Phase, Design, Build & Validate Phase, Test Phase, Deploy Phase, and Post Go-Live Stabilization Phase.[13]

X. CAPITAL COST FORECAST

TABLE EG-6
Capital Expenditures Summary of Costs

TESTIMONY AREA (in 2021$)					
Capital	Estimated 2022 ($000)	Estimated 2023 ($000)	Estimated TY 2024 ($000)	Estimated 2025 ($000)	Estimated 2026 ($000)
Total CAPITAL	$ 4,913	$ 2,723	$ 93,250	$ 74,133	$ 46,637

As shown in Table EG-6 above, SoCalGas forecasts to incur capital costs for the CIS Replacement Program from 2022 – 2026, totaling $221.7 million. Since the CIS Replacement is forecasted to go in-service in 2026, funding is requested through the Post-Test Year Ratemaking testimony of Khai Nguyen (Exhibit SCG-40). Additional information regarding CIS replacement can be found in my capital workpapers.[14]

A. Description of Costs and Activities

These forecasted capital expenditures reflect the need for evolving customer service capabilities to be implemented by the CIS Replacement Program in support of the Company's goal to build the cleanest, safest, most innovative energy company in America. Also included within the Capital Forecast for the CIS Replacement Program are software costs for cloud-based solutions. The IT industry is moving towards cloud-based solutions with software vendors, such

[13] *See* Ex. SCG-13-WP, Supplemental Workpaper 2CI000.000 for CIS Replacement Program annual and project phase details.

[14] *See* Ex. SCG-13-WP, Supplemental Workpaper 2CI000.000 for cost forecast details and drivers.

as Microsoft and SAP, now focused on Software as a Service (SaaS) solutions. This requires that on-premise technology environments have cloud enablement and integration capabilities available. Service management skills are also needed to ensure that usage is managed and service levels from the vendor are met.

Beginning in 2024, SoCalGas is proposing to capitalize and amortize these costs for regulatory recovery as long as the contracts meet SoCalGas's capitalization dollar thresholds. Any renewals of the maintenance contracts would be O&M. These services are integral to the successful operation of new hardware or software and should be considered an extension of the asset. Please refer to Pat Moersen's Rate Base Testimony (Exhibit SCG-31) for the proposal.

B. Forecast Method

The forecasting methodology for this project reflects a zero-based forecast because there is no regular historical average for reference. Cost estimates were obtained from vendor partners and provided by personnel experienced in estimating projects with similar scope, schedule, and technical environments.[15]

C. Cost Drivers

The forecast for Capital labor and non-labor is comprised of activities described within the CIS Replacement Program Implementation Plan Phases: Plan/Analyze Phase, Design, Build & Validate Phase, Test Phase, Deploy Phase, and Post Go-Live Stabilization Phase. Documentation of these cost drivers is included as supplemental capital workpapers.[16]

XI. CONCLUSION

After receiving approval in the 2019 GRC to study CIS replacement, SoCalGas conducted the thorough research and planning necessary to begin implementation of the new CIS Replacement Program which is forecasted to go into service in 2026. The new CIS will replace an outdated mainframe system that will be three decades old at the time of its replacement. CIS is the technology foundation of numerous critical operations with the SoCalGas Customer Services organization, and it is imperative that the legacy system is replaced prior to

[15] *Id*.

[16] *See* Ex. SCG-13-WP, Supplemental Workpaper 2CI000.000 for CIS Replacement Program annual and project phase details.

experiencing the types of failures experienced by comparable utilities using similarly aged systems.

The O&M and Capital cost forecasts for CIS replacement were developed through a rigorous analysis and comprehensive review process based on a framework provided by a global industry leader in CIS solution implementations. The resulting forecasts project the funding necessary to implement a modern CIS solution which will enable the capability and agility necessary to meet increasingly complex California regulatory requirements, support SoCalGas sustainability priorities, and keep pace with the rapidly changing energy industry and evolving service demands of customers.

Therefore, SoCalGas respectfully requests approval to proceed with and obtain cost recovery for the CIS Replacement Program, including recovery of O&M in this GRC for expenses related to the CIS implementation forecasted to go into service in 2026. The CIS Replacement Program Capital funding is requested through the Post-Test Year Ratemaking testimony of Khai Nguyen (Exhibit SCG-40).

This concludes my prepared direct testimony.

XII. WITNESS QUALIFICATIONS

My name is Evan D. Goldman. I am employed by SoCalGas, and my current position is CIS Replacement Program Manager where I have overall responsibility for the planning and organization of the CIS Replacement Program. My business address is 555 West Fifth Street, Los Angeles, CA 90013. I have over 25 years of experience with utility customer service operations and technology. At SoCalGas I have held a variety of management positions in customer services, customer engagement, information technology, and regulatory affairs. Prior to joining SoCalGas, I was a management and technology consultant focusing on Customer Information Systems and customer service business processes for utility industry clients. I received a Bachelor of Arts degree in Business Economics from the University of California at Santa Barbara.

I have previously testified before the Commission.

APPENDIX A

Glossary of Terms

APPENDIX A

Glossary of Terms

Acronym	Definition
AMP	Arrearage Management Plan
BY	Base Year
CIS	Customer Information Systems
CPUC	California Public Utilities Commission
CS	Customer Services
CSF	Customer Services Field
CSR	Customer Services Representative
CWP	Capital Workpapers
DBV	Design, Build, and Validate
FTE	Full-Time Equivalent
GRC	General Rate Case
IT	Information Technology
IVR	Interactive Voice Response
O&M	Operations and Maintenance
OCM	Organizational Change Management
OIR	Order Institute Rulemaking
PGLS	Post Go-live Stabilization
PTY	Post Test Year
QA	Quality Assurance
RICEFW	Reports, Interface, Conversion, Enhancements, Forms and Workflow
RNG	Renewable Natural Gas
SaaS	Software as a Service
SAP	Systems Applications and Products
SCE	Southern California Edison
SDG&E	San Diego Gas and Electric
SoCalGas	Southern California Gas Company
TY	Test Year

Acronym	Definition
WP	Workpaper