Application: A.25-12-019
Exhibit No:
Witness: Linden S. Olah

REVISED

PREPARED DIRECT TESTIMONY OF

LINDEN S. OLAH

ON BEHALF OF

SOUTHERN CALIFORNIA GAS COMPANY (U 904 G)

(CHAPTER IV – DEPLOYMENT)

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

July 2, 2026

TABLE OF CONTENTS

PREPARED DIRECT TESTIMONY OF
LINDEN S. OLAH
(DEPLOYMENT)

I. INTRODUCTION AND OVERVIEW

My testimony supports Southern California Gas Company's (SoCalGas) Application for Authorization to Implement Revenue Requirement for Advanced Meter Infrastructure Replacement Project (Application). The purpose of my direct testimony is to describe the deployment of the Advanced Meter Infrastructure Replacement (AMIR) Project, including the planned deployment scope, the associated cost forecast and underlying cost methodology, and the deployment roadmap that defines timing and sequence of deployment activities.

As detailed in the Direct Testimony of David M. Mercer (Chapter II), existing meter communication modules (module) are expected to experience large-scale failures beginning in 2030 as their batteries reach the end of life and require replacement. The current module is also being phased out with production expected to cease after mid-2031, beyond that required to serve existing warranty obligations. Given that the Advanced Meter Infrastructure (AMI) system is an integrated system, supporting components including the Communication Network and SoCalGas Systems (e.g., the HeadEnd System and the Meter Data Management (MDM) System) must also be replaced or reintegrated to maintain system compatibility and to support evolving cybersecurity needs.[1] Moreover, several of these components will no longer be supported by the manufacturer after 2038 and, until then, only limited support will be available. Accordingly, SoCalGas proposes a planned, systemwide replacement to avoid mass failures and corresponding operational impacts.

Executing the AMIR Project requires substantial coordination and oversight to safely and efficiently replace more than six million modules across SoCalGas's geographically diverse service territory. At peak deployment, up to approximately 500 field technicians will be operating, completing over 8,000 module installations each day. Managing this level of activity demands rigorous oversight to protect workforce and public safety, confirm material quality, and prevent disruptions arising from logistics or supply-chain constraints. To address these risks,

[1] For more information regarding the AMIR Project technology and interdependencies, refer to the Direct Testimony of Amy D. Vulin (Chapter III).

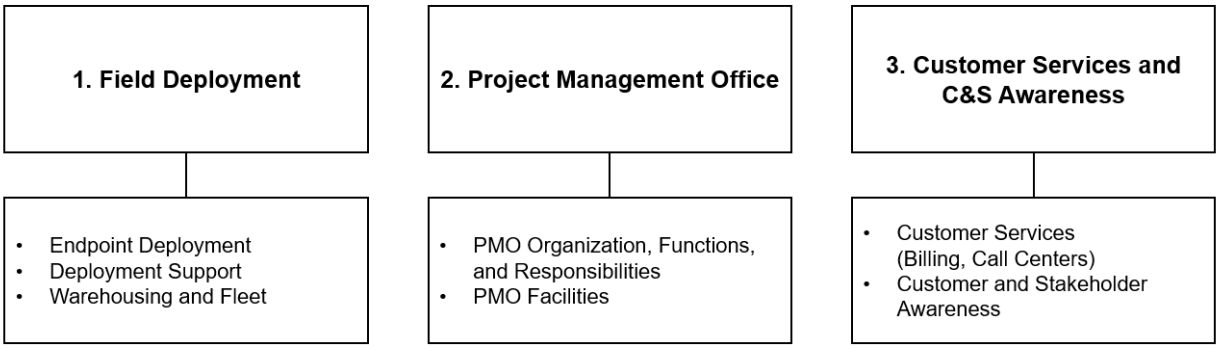
SoCalGas has designed a deployment approach that incorporates strategically located warehousing, a properly scaled and maintained fleet, and methodical scheduling, routing, and supervisory support.

SoCalGas is requesting recovery of $205.115 million in direct operating and maintenance (O&M) costs and $283.261 million in direct capital costs, totaling $488.376 million in direct costs for the deployment activities of the AMIR Project.[2] The cost forecasts, organizational structure, and implementation approach presented in my testimony reflect a prudent and cost-efficient plan to execute the system-wide replacement.

II. THE AMIR PROJECT DEPLOYMENT AREAS

The AMIR Project Deployment is categorized into the following three major areas: (1) Field Deployment, (2) Project Management Office (PMO), and (3) Customer Services and Customer and Stakeholder (C&S) Awareness (*see* Figure IV-1).

Figure IV-1 – AMIR Deployment Overview



A. Field Deployment

Field Deployment represents a large and resource intensive component of the AMIR Project, encompassing all field operational activities required to replace more than six million modules across SoCalGas's service territory. These activities include field technician (or "installer") training, field installation and removal of modules, quality assurance (QA), material quality management (MQM), warehousing, and fleet services.

[2] Direct costs are presented in unescalated and unloaded dollars, including the base cost of labor, materials, and contracts before the application of escalation and overheads.

1. Endpoint Deployment

Endpoint Deployment involves the physical removal and installation of replacement modules across SoCalGas's service territory.[3] Endpoint Deployment also encompasses field technician training, QA of installations, and related support activities that will maintain safety, efficiency, and operational consistency throughout field deployment. The primary deployment window for endpoint replacement is scheduled between 2030 and 2034, with limited installations beginning in 2029.

a) Field Training

To support Endpoint Deployment, SoCalGas will develop a comprehensive, two-tiered field training program for both newly hired and existing field technicians. The training program will be informed by the initial AMI deployment,[4] comparable company programs, and existing SoCalGas training curriculum.

- New Technician Training: SoCalGas anticipates approximately 1,000 new field technicians will participate in a 14-day training program over the deployment period (accounting for field technician turnover), delivered in cohorts of 14 field technicians by a two-person instructor team. This centralized training program will begin in 2029, ahead of module installation, to prepare the workforce for full deployment in 2030. The curriculum will include the following areas of instruction:
    - Gas safety procedures and identification of abnormal operating conditions;
    - Meter reading and coding;
    - Proper hand tool use and maintenance;
    - Gas diversion detection;
    - Removal of legacy modules and installation of new modules; and
    - Customer interaction and professionalism.
- Existing Field Technician Training: In addition to the New Technician Training program, existing Customer Service Field (CSF) and Gas Distribution technicians who currently perform module removals and installations will receive a focused four-hour training session. This course will include the safe removal of legacy modules, proper installation of replacement modules, and any new policies or procedures specific to AMIR deployment. Sessions will be delivered by the

[3] For more information regarding the technology installed, refer to the Direct Testimony of Amy D. Vulin (Chapter III).

[4] For background on the initial AMI system, refer to the Direct Testimony of Jennifer L. Walker (Chapter I).

instructor team and conducted at existing SoCalGas bases across the service territory.

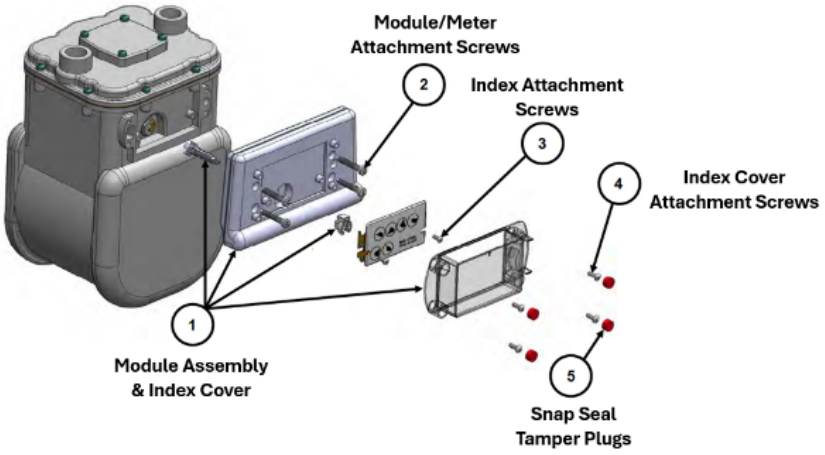
b) Endpoint Installation and Removal

Installation and removal activities constitute the largest component of Field Deployment.[5] SoCalGas will replace more than six million modules across its territory using a structured mass deployment approach, organizing field scheduling and routing geographically to optimize efficiency and reduce travel time. This deployment sequence will be similar to the initial AMI deployment, beginning with densely populated urban and suburban areas before progressing to regions with lower module density. Mass deployment will span approximately five years (*see* Table IV-1).

Table IV-1
AMIR Endpoint Installation Quantities by Year

Year	Endpoint Installation Quantity
2029	25,000
2030	1,200,000
2031	1,800,000
2032	1,700,000
2033	1,300,000
2034	275,000
Total	**6,300,000**

Figure IV-2
SoCalGas Meter and Module Hardware Components



[5] The costs for these modules and equipment are included in the Direct Testimony of Amy D. Vulin (Chapter III).

While the majority of endpoint installation and removal activities involve standard meter module replacements across residential, commercial, and industrial customer classes (*see* Figure IV-2), additional device types are also included in the deployment scope. The additional device types include new modules installed on electronic pressure monitors (EPM), electronic volume correctors (EVC), and electronic correctors (EC), which enable transmission of pressure and volume data through the AMI system. With regards to the approximately 4,500 ECs within the SoCalGas system, all must be replaced as the instrument design prohibits replacement of the module. This process requires pre-installation of the module on the EC, which is then sent to the field for installation as a single unit. This process is more involved than a standard module replacement and requires additional handling time to complete safely and accurately.

In addition, based on experience from SoCalGas's initial AMI deployment, approximately two percent of meters (approximately 126,000) are expected to require full meter replacement due to breakage. Breakage occurs when screws securing the communication module to the meter break within the asset, preventing the installation of a new module and requiring the replacement of the entire meter.

Separately, SoCalGas anticipates that approximately 30 percent of meters installed within curb meter boxes[6] (approximately 61,500) will require temporary removal and reinstallation to allow installation of the replacement module. In these instances, due to space constraints within the curb meter box enclosure, the module cannot be removed in place as it is positioned too close to the curb meter box wall or other equipment for technicians to access the screws securing it. This process is more involved than instances where the module is readily accessible due to confined working space and added handling time.

Installation and removal activities will be supported by a Field Safety Advisor, Field Supervisors, Area Managers, and Project Managers who coordinate daily assignments, complete safety observations for installers and evaluate safety trends, oversee scheduling and installation performance, and address variances in expected daily installation rates.

c) Quality Assurance

QA activities consist of independent field verification of installation work that promotes safety and consistency throughout the AMIR deployment. QA activities validate that field

[6] Curb meter boxes are below-ground, reinforced enclosures designed to house gas meters and other operational equipment.

installations comply with established procedures and technical standards, enabling the early identification of issues and reducing the risk of systemic errors during large-scale field operations. QA Specialists will conduct randomized inspections of approximately five percent of completed installations, reviewing work quality, adherence to defined installation procedures, and accuracy of recorded meter data. Each QA Specialist is projected to complete approximately 65 inspections per day, providing representative coverage across field installers and geographic regions.

Inspection results will be reviewed by QA Team Leads who will analyze trends, identify recurring issues, and coordinate with Field Supervisors and Instructors to address issues and reinforce training. This structure supports continuous performance monitoring and creates a feedback loop between field execution, training, and quality management. As installation volumes scale during the mass deployment period, QA personnel levels will be staffed proportionally at each warehouse location.

2. Deployment Support

Deployment Support includes MQM, where team members validate equipment design and production quality, and Back Office Support, which provides technical support, operational analysis, centralized scheduling, dispatch coordination, and administrative management for field operations.

a) Material Quality Management

The MQM workstream provides the technical validation and certification necessary to confirm that new modules meet design, safety, and performance specifications prior to and during mass production. This process establishes a rigorous quality framework that minimizes the risk of technical defects and supports consistent production of functioning modules from the technology vendor.

- Phase 1- Pre-Production Quality Management (2026 – 2029): The first phase of MQM focuses on design and certification prior to mass manufacturing. Design activities include module design review, form-fit-function analysis, prototype testing, and first-article inspection to verify that each component meets installation and operational standards. First-article qualification validates that early production samples match approved design specifications and are ready for full-scale manufacturing. In addition, once the prototype is approved, SoCalGas engineers will conduct functional and performance testing, American National Standards Institute (ANSI) compliance verification, and vendor factory certification. Factory certification involves on-site assessments of vendor

manufacturing processes to confirm that production lines can consistently produce modules meeting SoCalGas's technical requirements.

- Phase 2 – Production Quality Management (2029 – 2034): Once full production begins, SoCalGas will continue MQM through ongoing quality verification of modules delivered for installation. SoCalGas engineers will perform statistical sampling and inspection of each production batch for more than six million modules to confirm adherence to performance standards. Sampled modules will undergo functional testing, visual inspection, and validation against factory data to verify adherence to established design requirements. Inspection results will be reviewed by an MQM Team Lead. This continuous verification process supports the reliability of equipment used in installation and the integrity of the AMIR Project deployment supply chain.

b) Deployment Back-Office Support

Deployment Back-Office Support serves as the central coordination hub for field deployment, providing the administrative, logistical, and data-management backbone for field operations. These functions coordinate daily field activity, maintain workforce schedules, and track installation performance across SoCalGas's service territory. Key responsibilities include work-order routing, scheduling, dispatch coordination, records management, payroll processing, and meter data validation. Dedicated back-office personnel will include.

- Dispatchers: Manage day-to-day routing of field work orders and coordinate directly with the installation workforce, warehouse teams, and call-center staff to optimize coverage and response times.
- Technical Advisors: Resolve complex technical issues such as equipment damage, connectivity problems, or field-reported defects and support the development and deployment of updated training materials to address recurring challenges.
- Deployment Analysts: Track, report, and analyze operational performance and measure outcomes to develop actionable insights that inform deployment strategy and decision-making.
- Administrative Associate: Handle records, data entry, payroll processing, and budget reporting.
- Deployment Schedulers: Analyze forecasted and existing workloads against available resources to optimize workforce utilization, resolve workload issues, and reinforce adherence to project timelines.
- Meter Data Validation Analyst: Confirm the accuracy of the newly installed module read against the meter index read. Validation is performed by cross-referencing data transmitted by the module against information in the work order management system. If discrepancies are identified, technicians will follow established remediation procedures to address the issue.

Deployment Back-Office Support also provides tracking of installation progress, workforce utilization, and customer appointment completion rates. Their coordination enables consistent communication across workstreams and supports adherence to project milestones and schedule.

3. Warehousing & Fleet

a) Warehousing

Warehousing activities support the physical storage, handling, and distribution of modules, materials, tools, and equipment required for the AMIR Project deployment. These facilities will serve as regional operations bases for installers, QA Specialists, and field support staff throughout the installation period. Warehouses will also provide staging locations for modules, meters, instruments, and ancillary materials. The number and size of warehouse sites will vary over time, ramping up during the peak installation years and scaling down as regional deployment concludes. This warehousing approach is designed to provide the right level of coverage and capacity at each stage of deployment while minimizing long-term lease obligations.

- Leasing and Permitting: SoCalGas will lease temporary warehouse facilities across its service territory to support the mass replacement of more than six million modules. Each leased site will meet local zoning, environmental, and permitting requirements to accommodate field staff, material storage, and administrative functions, as appropriate. Leasing and permitting planning activities begin in 2027 and 2028, with the first facilities coming online to support initial deployment of 25,000 meters in 2029. Additional sites will be established as deployment expands regionally between 2030 and 2032, corresponding to the peak installation period. As installation volumes taper in 2033 and 2034, warehouse operations will be systematically consolidated and decommissioned to align with the completion of field work in each region.
- Setup and Decommissioning of Leased Space: Activities include all labor and materials required to establish operational warehouse environments. Setup includes the creation of office space and dedicated areas for field installers, along with the installation of shelving, lockers, and equipment for field and office staff, as well as network technology, audiovisual, and safety systems. Decommissioning activities will occur at the end of each warehouse's deployment cycle and will include restoring facilities to pre-leased conditions as needed (e.g., removing temporary infrastructure).
- Material Handling: Covers the day-to-day operations that support the movement and management of deployment materials. Key activities include:
    - Receiving, staging, and issuing modules and meters to field technicians;

- Collecting and processing removed modules and meters returned from the field; and
- Overseeing waste handling and recycling operations and managing hazardous or salvageable materials appropriately.

- Inventory Management: Oversees tracking of modules, instruments, parts, tools, and consumables used throughout the deployment period. Inventory levels are monitored against forecasted installation volumes to maintain adequate supply while avoiding excess stock. Standardized reporting allows the PMO and Field Deployment teams to monitor material usage and forecast replenishment needs. Upon completion of deployment in each region, inventory will be reconciled, and residual materials will be re-distributed for ongoing operations, as needed.

b) Fleet

Fleet includes fleet services and vehicles to provide the transportation resources necessary to support AMIR Deployment activities across the SoCalGas service territory. Vehicles are required for installers, QA Specialists, Field Supervisors, and Area Managers. The fleet composition and quantity are based on workforce sizing requirements aligned with the projected installation volumes during the deployment period from 2029 through 2034. Vehicle types and configurations have been selected based on safety and operational and cost efficiencies, while supporting the logistical needs of the field workforce. The following guidelines will be used to assign vehicles to crew:

- Field Technicians: Mid-size utility trucks will be assigned to field installers. These vehicles will provide adequate cargo space for daily module inventory, tools, and safety equipment while maintaining fuel efficiency and maneuverability within urban and suburban neighborhoods.
- Quality Assurance, Area Managers, and Field Supervisors: Sedans and compact SUVs will be assigned to QA Specialists, Area Managers, and Field Supervisors, who primarily conduct inspections and safety observations rather than material transport.

B. PMO

The PMO's primary role is to maintain cross-functional alignment, facilitate timely decision-making, and support governance through project data, reporting, and project controls. PMO activities will span the entire project period (2025 through 2034), with staffing levels adjusted to align with key milestones.

1. PMO Organization, Functions, and Responsibilities

The PMO will manage functions required to coordinate a large, multi-year technology and field implementation program. Key PMO responsibilities include:

- Project Planning and Scheduling: Involves developing and maintaining the integrated master schedule that coordinates all AMIR Project activities, including technology readiness, warehouse mobilization, training, and field installation.
- Budgeting and Cost Control: Includes tracking actual costs against authorized budgets, coordinating cost reporting, and supporting financial reviews.
- Performance Monitoring: Involves collecting and analyzing Key Performance Indicators (KPIs) related to schedule adherence, installation rates, and workforce utilization.
- Vendor and Contract Management: Involves supporting procurement, onboarding, and coordination of external vendors for field operations, technology integration,[7] and support services.
- Change and Project Management: Includes project management (e.g., scope, schedule, resources), coordinating issue escalation, and facilitating structured change control.
- Cross-Workstream Coordination: Includes coordinating activities across Field Deployment, Customer Services and C&S Awareness, and Technology, to maintain alignment.
- Records Management: Includes maintaining and managing AMIR Project records.

2. Project Facilities

Facilities are associated with leasing and maintaining office space to accommodate PMO and management personnel who will require workspace, conference rooms, and supporting infrastructure such as telecommunications and secure network connectivity.

C. Customer Services and C&S Awareness

Customer Services and C&S Awareness include AMIR customer billing, customer contact support services, and customer and stakeholder awareness throughout the deployment period. These activities are critical to maintaining reliable billing operations, addressing customer inquiries, and supporting safe and efficient access to gas meters during module replacement. This area is organized into two categories: (1) Customer Services, and (2) C&S Awareness.

[7] For additional information regarding AMIR Project technology activities, refer to the Direct Testimony of Amy D. Vulin (Chapter III).

1. Customer Services

a) AMIR Customer Billing Support

Customer Billing involves activities required to manage AMIR related billing exceptions[8] caused by data discrepancies resulting from module replacements and sometimes network or system issues occurring from 2029 through 2034. During deployment, changes in modules will lead to billing exceptions. Analysts will review and resolve these billing exceptions, verify data integrity, and make necessary billing adjustments. AMIR-related billing exceptions are expected to track closely with installation volumes, increasing during peak replacement years and tapering as deployment concludes.

b) AMIR Call Center Support

As experienced in the original Advanced Meter deployment, field activity related to module replacements, and proactive customer engagement efforts described later in this testimony, is expected to increase customer inquiries. SoCalGas will staff a call center support team to handle AMIR-related questions. This call center support will handle customer inquiries related to scheduling, installation activity, meter access coordination, billing exceptions, and general project information. AMIR-related calls are expected to track closely with installation volumes, increasing during peak replacement years and tapering as deployment concludes. To manage this demand efficiently, SoCalGas will optimize call routing through automated tools that allow customers to self-direct their calls and limit demand for support from a live agent. These call center resources will operate as an integrated support function for the AMIR Project, providing timely responses to customers while maintaining service quality throughout the deployment period.

2. C&S Awareness

C&S Awareness efforts will provide information and updates regarding the AMIR Project to customers, communities, and external stakeholders throughout the deployment period. These activities are designed to promote public and workforce safety, customer awareness, and coordination as field work progresses across SoCalGas's service territory. The C&S Awareness Team will develop and execute comprehensive communication campaigns, outreach programs,

[8] A "billing exception" generally refers to any situation where a customer's bill cannot be automatically generated or processed through the normal billing system workflow, usually because of inconsistent, abnormal, or a lack of data that requires manual review or correction before the bill can be issued.

and multilingual notifications. The effort will build upon SoCalGas's existing Safe Access campaign, which educates customers about field personnel identification and access procedures. These activities are also intended to improve operational efficiency by increasing customer awareness and enhancing the likelihood of successful first-attempt access for field technicians.

Key activities include:

- Public Awareness and Safety Messaging: Communicate the purpose of the AMIR Project, promote safety awareness, and inform customers about the presence of SoCalGas personnel on their property.
- Notifications: Use direct mail, doorhangers, text alerts, traditional earned media, and digital tools to provide advance notice of upcoming module replacements.
- Multilingual and Targeted Campaigns: Deliver tailored messages by region, language, and customer type to promote understanding and participation.
- Stakeholder Awareness: Coordinate with community-based organizations, city officials, government agencies, and homeowner associations to support meter access and mitigate disruptions to module deployment.

III. FORECASTED COSTS AND METHODOLOGY

A. Overview of Cost Forecast Methodology & Assumptions

SoCalGas developed the deployment cost forecast using a range of inputs, including labor estimates, vendor data, and subject matter expertise, to produce data-driven and reasonable cost estimates for the deployment activities associated with the AMIR Project. The following describes the process or categorization used to develop the deployment cost forecast for the AMIR Project. Additional details are provided in the workpapers supporting my testimony.

- Functional Decomposition: SoCalGas first defined the scope and work requirements for each area to clearly identify all activities necessary for implementation. SoCalGas subject matter experts (SME) and consultants collaborated to review the scope of work. Each AMIR deployment component was grouped into specific activities and cost categories – AMIR Field Deployment, AMIR PMO, and AMIR Customer Services and C&S Awareness.
- Bottom-Up Cost Estimation: SoCalGas then applied a detailed, bottom-up estimation process to quantify costs for each activity. Labor hours, material, vendor costs, and other associated cost elements were estimated using historical performance, comparable company projects, and current market data (data from outside sources that reflect prevailing industry prices or wage rates). Quantities such as vehicle leases, warehousing material, and installer tools were based on headcount forecasts which align with anticipated installation volumes and timing.
- Labor Costs: Labor cost assumptions were developed through coordination with SMEs and are generally based on the number of full-time equivalent employees multiplied by the annual labor rate for the relevant job classification.

- Non-Labor Costs: Non-Labor costs were developed using a combination of current vendor rates, market data, and SoCalGas SME input. Estimates reflect experience and data from the initial AMI deployment, supplemented by vendor Requests for Information (RFI), consultant estimates, historical actuals, and invoices.
- Competitive Solicitation (RFI/RFP): SoCalGas conducted an RFI to identify qualified and cost-competitive vendors for the AMIR Project. RFI information is used as a basis for our cost forecast. The RFI process is used to procure major deployment components, including Inventory Management Services and PMO Support Services. SoCalGas's solicitation process evaluates vendors based on technical capability, implementation experience, safety, customer affordability, cost competitiveness, operational efficiency, and market risk. The results of the RFI processes form the basis for SoCalGas's deployment cost forecast.
- Contingency: The contingency framework was developed and implemented through an evaluation of activities at both the category and sub-category levels. This assessment was conducted to determine the degree of risk associated with each area, taking into account factors such as evolving market conditions. Based on the risk profile determined for each area, differentiated contingency rates were applied in a manner proportionate to the identified level of exposure.
- Meter Growth Forecasts: Forecast is based on estimated demand for new meters expected to be installed as of 2029-year end and is used to inform the total module installation and removal requirements.

The deployment cost forecasting methodology reflects a structured and data-driven approach that integrates activity-based forecasting, vendor data and pricing, market data, SME input, historical cost information, and analysis of comparable company projects. The resulting forecasted costs represent a reasonable and supported estimate of the costs required for the deployment activities of the AMIR Project.

B. AMIR Deployment Forecasted Costs

SoCalGas is requesting $205.115 million in direct O&M costs and $283.261 million in direct capital costs, totaling $488.376 million in direct total costs for AMIR deployment activities. O&M costs include module removal, training, and customer-facing activities necessary to execute field deployment. Capital costs include new module installation, warehousing, and MQM, activities that support the sustained installation effort. Table IV-2 below provides the AMIR Deployment Total Costs by category (Field Deployment, PMO, and Customer Services and C&S Awareness) from 2025 through 2034.

Table IV-2
AMIR Deployment Total Costs by Category
In 2025 $ (000s)

AMIR Project Deployment Areas	Total	O&M	Capital
Field Deployment	360,249	123,064	237,185
PMO	71,759	25,682	46,076
Customer Services and C&S Awareness	56,369	56,369	-
Total	**488,376**	**205,115**	**283,261**

1. Field Deployment

SoCalGas is requesting recovery of $123.064 million in direct O&M costs and $237.185 million in direct capital costs, totaling $360.249 million in direct total costs for technician training, field installation and removal of modules, QA, MQM, warehousing, and fleet services. Table IV-3 below provides AMIR Field Deployment costs by cost type (O&M and capital). Table IV-4 below provides AMIR Field Deployment costs by cost category. Additional detailed cost information and assumptions can be found in my supporting workpapers (SCG-IV-WP, WP4-01, WP4-02 & WP4-03).

Table IV-3
AMIR Field Deployment Total Costs by Type
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Type	2025	2026	2027	2028	2029	
O&M	$ -	$ 113	$ 209	$ 2,152	$ 6,579	
Capital	$ 315	$ 1,935	$ 2,148	$ 2,230	$ 9,454	
Total	**$ 315**	**$ 2,049**	**$ 2,357**	**$ 4,381**	**$ 16,033**	
Forecasted Years: 2030-2034						
Cost Type	2030	2031	2032	2033	2034	**Total**
O&M	$ 22,757	$ 31,054	$ 28,847	$ 23,174	$ 8,178	**$ 123,064**
Capital	$ 44,258	$ 62,867	$ 56,528	$ 44,504	$ 12,945	**237,185**
Total	**$ 67,015**	**$ 93,921**	**$ 85,375**	**$ 67,679**	**$ 21,123**	**$ 360,249**

Table IV-4
AMIR Field Deployment Total Costs by Category
In 2025 $ (000s)

Forecasted Years: 2025-2029					
Cost Category	2025	2026	2027	2028	2029
Endpoint Deployment	$ 315	$ 1,745	$ 745	$ 2,544	$ 9,838
Deployment Support	$ -	$ 304	$ 1,284	$ 1,510	$ 4,214
Warehousing and Fleet	$ -	$ -	$ 327	$ 327	$ 1,981
Total	**$ 315**	**$ 2,049**	**$ 2,357**	**$ 4,381**	**$ 16,033**

Forecasted Years: 2030-2034						
Cost Category	2030	2031	2032	2033	2034	**Total**
Endpoint Deployment	$ 40,339	$ 56,462	$ 53,008	$ 42,587	$ 14,495	**$ 222,080**
Deployment Support	$ 5,732	$ 5,725	$ 5,572	$ 5,196	$ 3,096	**32,633**
Warehousing and Fleet	$ 20,944	$ 31,734	$ 26,795	$ 19,896	$ 3,531	**105,535**
Total	**$ 67,015**	**$ 93,921**	**$ 85,375**	**$ 67,679**	**$ 21,123**	**$ 360,249**

a) Endpoint Deployment Costs

SoCalGas is requesting recovery of $100.125 million in direct O&M costs and $121.956 million in direct capital costs, totaling $222.080 million in direct total costs for activities necessary for the removal and installation of modules, technician training, QA of installations, and related support activities. Table IV-5 below provides Endpoint Deployment costs by cost type (O&M and capital). Table IV-6 below provides Endpoint Deployment costs by cost category. Additional detailed cost information and assumptions can be found in my supporting workpapers (SCG-IV-WP, WP4-01).

Table IV-5
AMIR Endpoint Deployment Total Costs by Type
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Type	2025	2026	2027	2028	2029	
O&M	$ -	$ 113	$ 169	$ 1,956	$ 5,020	
Capital	$ 315	$ 1,632	$ 576	$ 589	$ 4,818	
Total	**$ 315**	**$ 1,745**	**$ 745**	**$ 2,544**	**$ 9,838**	
Forecasted Years: 2030-2034						
Cost Type	2030	2031	2032	2033	2034	**Total**
O&M	$ 18,538	$ 25,692	$ 23,668	$ 18,726	$ 6,243	**$ 100,125**
Capital	$ 21,801	$ 30,770	$ 29,340	$ 23,861	$ 8,253	**$ 121,956**
Total	**$ 40,339**	**$ 56,462**	**$ 53,008**	**$ 42,587**	**$ 14,495**	**$ 222,080**

Table IV-6
AMIR Endpoint Deployment Total Costs by Category
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Category	2025	2026	2027	2028	2029	
Field Training	$ -	$ -	$ -	$ -	$ 929	
Endpoint Installation/Removal	315	1,745	745	2,544	8,825	
Quality Assurance	-	-	-	-	84	
Total	**$ 315**	**$ 1,745**	**$ 745**	**$ 2,544**	**$ 9,838**	
Forecasted Years: 2030-2034						
Cost Category	2030	2031	2032	2033	2034	**Total**
Field Training	$ 1,764	$ 2,001	$ 1,094	$ 460	$ 54	**$ 6,302**
Endpoint Installation/Removal	38,122	53,824	51,279	41,671	14,267	**213,339**
Quality Assurance	453	638	634	456	175	**2,439**
Total	**$ 40,339**	**$ 56,462**	**$ 53,008**	**$ 42,587**	**$ 14,495**	**$ 222,080**

The total forecast for Field Training is $6.302 million. This forecast includes the labor, facilities, instructional materials, and administrative support required to prepare both new and existing technicians for safe and efficient installation and removal of AMI modules throughout the deployment period. Field Training supports deployment by qualifying more than 1,000 new

field technicians and over 1,000 existing field technicians to support field deployment activities. The forecast was developed using a bottom-up cost estimating approach with SoCalGas SMEs input, informed by the initial AMI deployment, and current field operations. Cost inputs include trainer and trainee labor hours, curriculum development, classroom facility costs, and required instruction materials. Cost drivers include expected installation volumes, daily installation targets, and projected workforce turnover throughout the deployment period.[9] Field Training costs are projected to occur from 2029 through 2034. Costs begin in 2029 to support curriculum development, instructor preparation, and initial training, peak in 2030 and 2031 as large-scale technician training ramps up, and decline through 2034 as activities shift toward training of new replacement personnel.

The total forecast for Endpoint Installation and Removal is $213.339 million. This forecast includes the labor and associated support required to remove legacy modules and install replacement modules across SoCalGas's service territory. Forecasted costs include installer labor, safety oversight, field supervision, and project management to support a coordinated, territory-wide deployment. This forecast was developed using a bottom-up approach informed by historical benchmarks from the initial AMI deployment and current AMI field operations. Installer headcounts were derived from projected annual installation volumes and expected daily installation rates. Supervisor staffing levels were based on a planned 1:15 supervisor-to-installer ratio, and Area Manager requirements were aligned with the number of active warehouses with each manager overseeing two to three locations.

Cost drivers include the number of technicians required to meet installation volumes based on projected timing of battery failures,[10] expected daily installation rates, repeat installation attempts required due to unsafe or inaccessible conditions on customer property, and expected module failures and malfunctions that occur outside of areas where mass deployment has started. Tools and equipment costs, including handheld work order management devices, were scaled proportionally with installer headcounts and developed using historical data. Endpoint Installation and Removal costs are projected to occur from 2025 to 2034. Early costs

[9] Turnover rates were informed by the initial AMI deployment, which averaged approximately 249 percent over the full deployment period.

[10] For more information regarding module battery failures and the need for the AMIR Project, refer to the Direct Testimony of David M. Mercer (Chapter II).

include planning and costs to manage the competitive solicitation (RFI/RFP) process. Costs increase in 2029 with the installation of approximately 25,000 modules, peak between 2031 and 2033, and decline in 2034 as installation volumes taper.

The total forecast for QA is $2.439 million. This forecast includes the labor and associated support required to verify installation quality and maintain safety, accuracy, and consistency throughout field deployment. QA activities include inspection of completed module installations, validation of recorded meter data, and confirmation that installation procedures were followed. The forecast was developed using a bottom-up approach informed by historical inspection rates, current operational practices, and experience from the initial AMI deployment. Cost inputs include QA Specialist labor calculated using internal labor rates and projected inspection volumes, along with travel-related expenses such as hotel and per-diem costs estimated from current averages for comparable field-based activities. Key cost drivers include the five-percent QA inspection rate, which provides representative coverage while maintaining efficient resource use, and QA completion rate assumptions of approximately 65 inspections per specialist per day. QA costs are projected to occur from 2029 through 2034. Costs begin in 2029 to support initial installations, peak from 2030 through 2032 during mass deployment and decline in 2033 and 2034 as installation volumes taper and QA staffing levels are reduced accordingly.

b) Deployment Support

SoCalGas is requesting recovery of $8.692 million in direct O&M costs and $23.941 million in direct capital costs, totaling $32.633 million in total direct costs for Deployment Support. This category includes (1) MQM, which provides validation of equipment design and production quality, and (2) Deployment Back-Office Support, which provides centralized operational analysis, scheduling, dispatch coordination, technical, and administrative support for field operations. Table IV-7 below provides Deployment Support costs by cost type (O&M and capital). Table IV-8 below provides Deployment Support costs by cost category. Additional detailed cost information and assumptions can be found in my supporting workpapers (SCG-IV-WP, WP4-02).

Table IV-7
AMIR Deployment Support Total Costs by Type
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Type	2025	2026	2027	2028	2029	
O&M	$ -	$ -	$ 20	$ 131	$ 1,059	
Capital	-	304	1,265	1,379	3,154	
Total	**$ -**	**$ 304**	**$ 1,284**	**$ 1,510**	**$ 4,214**	
Forecasted Years: 2030-2034						
Cost Type	2030	2031	2032	2033	2034	**Total**
O&M	$ 1,606	$ 1,606	$ 1,606	$ 1,606	$ 1,059	**$ 8,692**
Capital	4,126	4,119	3,967	3,591	2,037	**23,941**
Total	**$ 5,732**	**$ 5,725**	**$ 5,572**	**$ 5,196**	**$ 3,096**	**$ 32,633**

Table IV-8
AMIR Deployment Support Total Costs by Category
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Category	2025	2026	2027	2028	2029	
Material Quality Management	$ -	$ 304	$ 1,121	$ 1,183	$ 1,565	
Deployment Back-Office Support	-	-	164	327	2,649	
Total	**$ -**	**$ 304**	**$ 1,284**	**$ 1,510**	**$ 4,214**	
Forecasted Years: 2030-2034						
Cost Category	2030	2031	2032	2033	2034	**Total**
Material Quality Management	$ 1,717	$ 1,711	$ 1,558	$ 1,182	$ 448	**$ 10,789**
Deployment Back-Office Support	4,014	4,014	4,014	4,014	2,649	**21,845**
Total	**$ 5,732**	**$ 5,725**	**$ 5,572**	**$ 5,196**	**$ 3,096**	**$ 32,633**

The total forecast for MQM is $10.789 million. This forecast includes the labor and support required to validate module design, certify vendor management processes, verify production quality, and address product issues and defects throughout deployment. MQM activities follow two primary phases – Pre-Production Quality Management and Production Quality Management.

The forecast was developed using a bottom-up approach based on SoCalGas labor rates, SME input, and company requirements for material quality and testing. Cost inputs include estimated hourly labor requirements to perform design validation, prototype testing, factory certification, and ongoing QA and testing during mass production. Key cost drivers include the level of effort required to verify module design, confirm adherence to company requirements, and address any quality deviations identified during production. MQM costs are projected to occur from 2026 through 2034. Costs begin at lower levels in 2026 to support initial module design reviews, testing, and approval, increase in 2027 to support first-article inspections, meter validation, and factory certification, and remain steady through 2028 as full-scale manufacturing begins. During Phase 2 (2029-2034), costs remain steady to support ongoing QA and decline in 2034 as production slows and deployment nears completion.

The total forecast for Deployment Back Office Support is $21.845 million. This forecast includes the labor and supporting costs required to provide the technical support, administrative coordination, scheduling, dispatching, operational analysis, and meter data-validation functions that enable AMIR field deployment. Deployment Back Office personnel serve as the operational link between field technicians, warehouses, and customer service functions, confirming daily work orders, meter data, and installation performance are accurately tracked and reconciled across SoCalGas's service territory. The forecast was developed using a bottom-up approach informed by historical data from the initial AMI deployment and SoCalGas SME input. Cost inputs include estimated headcounts for technical advisors, deployment analysts, dispatchers, schedulers, administrative associates, and data validation analysts, along with their associated labor hours, supervision, and system-support needs. The forecast also incorporates targets for validating initial meter reads and resolving discrepancies between module-transmitted data and meter index data. Key cost drivers include the volume of meter installations requiring post-installation data validation, the size of the workforce supported, and the scale of scheduling and dispatch activity required during peak deployment. Each new module installation requires data confirmation to support billing integrity, driving the need for staffing across administrative and analytical functions. Deployment Back Office Support costs are projected to occur from 2027 through 2034. Costs increase in 2029 as warehouse and field operations mobilize, peak between 2030 and 2033 when installation and validation activity are at their highest and decline in 2034 as field operations taper.

c) Warehousing and Fleet Services

SoCalGas is requesting recovery of $105.535 million; $14.247 million in direct O&M costs and $91.288 million in direct capital costs for Warehousing and Fleet Services. These costs are for essential physical warehouse operations, including storage, material handling and distribution, inventory tracking, and tools and equipment required for field deployment. Fleet costs include vehicle leasing, fuel, insurance, maintenance and fleet management activities. Together, these services support timely material availability and reliable transportation for project staff throughout deployment. Table IV-9 below provides Warehousing and Fleet costs by cost type (O&M and capital). Table IV-10 below shows the Warehousing and Fleet costs by cost category. Additional detailed cost information and assumptions can be found in my supporting workpapers (SCG-IV-WP, WP4-03 & WP4-04)

Table IV-9
AMIR Warehousing and Fleet Total Costs by Type
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Type	2025	2026	2027	2028	2029	
O&M	$ -	$ -	$ 20	$ 65	$ 500	
Capital	-	-	308	262	1,481	
Total	**$ -**	**$ -**	**$ 327**	**$ 327**	**$ 1,981**	

Forecasted Years: 2030-2034						
Cost Type	2030	2031	2032	2033	2034	**Total**
O&M	$ 2,614	$ 3,757	$ 3,574	$ 2,843	$ 876	**$ 14,247**
Capital	18,330	27,978	23,221	17,053	2,655	**91,288**
Total	**$ 20,944**	**$ 31,734**	**$ 26,795**	**$ 19,896**	**$ 3,531**	**$ 105,535**

Table IV-10
AMIR Warehousing and Fleet Total Costs by Category
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Category	2025	2026	2027	2028	2029	
Warehousing	$ -	$ -	$ 164	$ 164	$ 732	
Fleet	-	-	164	164	1,249	
Total	**$ -**	**$ -**	**$ 327**	**$ 327**	**$ 1,981**	

Forecasted Years: 2030-2034						
Cost Category	2030	2031	2032	2033	2034	**Total**
Warehousing	$ 14,410	$ 22,343	$ 17,861	$ 12,789	$ 1,342	**$ 69,803**
Fleet	6,534	9,391	8,934	7,107	2,189	**35,732**
Total	**$ 20,944**	**$ 31,734**	**$ 26,795**	**$ 19,896**	**$ 3,531**	**$ 105,535**

The total forecast for Warehousing is $69.803 million. This forecast includes the labor and supporting costs required to establish, operate, and decommission regional warehouse facilities that serve as operational bases for field deployment activities. Table IV-11 below provides Warehousing costs by cost type (O&M and capital). Table IV-12 below provides Warehousing costs by cost category. Additional detailed cost information and assumptions can be found in my supporting workpapers (SCG-IV-WP, WP4-03).

Table IV-11
AMIR Warehousing Total Costs by Type
In 2025 $ (000s)

Warehousing Areas	**Total**	**O&M**	**Capital**
Leasing and Permitting	12,131	-	12,131
Setup and Decommissioning	13,525	-	13,525
Material Handling	23,912	-	23,912
Inventory Management	18,927	-	18,927
Project Management	1,309	-	1,309
Total	**69,803**	**-**	**69,803**

Table IV-12
AMIR Warehousing Total Costs by Category
In 2025 $ (000s)

Forecasted Years: 2025-2029					
Warehousing Areas	2025	2026	2027	2028	2029
Leasing and Permitting	$ -	$ -	$ -	$ -	$ 101
Setup and Decommissioning	-	-	-	-	110
Material Handling	-	-	-	-	199
Inventory Management	-	-	-	-	158
Project Management	-	-	164	164	164
Total	**$ -**	**$ -**	**$ 164**	**$ 164**	**$ 732**

Forecasted Years: 2030-2034						
Warehousing Areas	2030	2031	2032	2033	2034	**Total**
Leasing and Permitting	$ 2,527	$ 3,942	$ 3,134	$ 2,224	$ 202	**$ 12,131**
Setup and Decommissioning	2,794	4,314	3,496	2,548	262	**13,525**
Material Handling	4,982	7,771	6,177	4,384	399	**23,912**
Inventory Management	3,943	6,151	4,890	3,470	315	**18,927**
Project Management	164	164	164	164	164	**1,309**
Total	**$ 14,410**	**$ 22,343**	**$ 17,861**	**$ 12,789**	**$ 1,342**	**$ 69,803**

Warehousing functions encompass five primary components:

1. Leasing and Permitting: Costs include lease expenses, permitting, maintenance, landscaping, and utilities associated with establishing and operating the facilities.
2. Setup and Decommissioning: Costs include labor, materials, and equipment required to prepare warehouse sites for operation, and to safely decommission them at the end of each warehouse's operating period.
3. Material Handling: Costs primarily consist of labor and some equipment (e.g., forklifts and safety equipment) to support safe and efficient daily staging and loading activities.
4. Inventory Management: Costs include external labor support for warehouse-level inventory control, receiving, documentation, and reconciliation functions.

5. Project Management: Costs include labor required to coordinate warehouse activation and release, manage lease terms, oversee warehouse operations, and maintain alignment with field deployment needs.

The forecast was developed using a bottom-up approach informed by SME input, historical data from SoCalGas's initial AMI deployment, and market benchmarks for leased industrial facilities of comparable size and configuration. Cost inputs include warehouse labor for daily operational support (material handling, staging, inventory management, safety) and costs for facility readiness and modifications, including equipment, infrastructure, storage systems, and workspace buildout. Key cost drivers include the number and duration of active warehouse facilities required to support regional field crews, the scale of inventory and materials managed, and the facility build-out and decommissioning requirements tied to each phase of deployment. SoCalGas labor rates and results of the competitive solicitation (RFI/RFP) informed cost assumptions. Warehousing costs are projected to occur from 2027 through 2034. Costs are lower from 2027 through 2029 as activities focus on planning, leasing, and facility preparation, increase from 2030 through 2032 as mass deployment progresses and additional regional facilities are activated, and decline in 2033 and 2034 as installation volumes taper and warehouse sites are decommissioned.

The total forecast for Fleet Services is $35.732 million. These costs reflect the vehicle and supporting fleet management activities required to support installers, supervisors, QA Specialists, and Area Managers throughout field deployment. Fleet costs include vehicle leasing, fuel, insurance, maintenance, and fleet project management support necessary to sustain a geographically distributed installation workforce. Table IV-13 below provides Fleet costs by cost type (O&M and capital). Table IV-14 below provides the Fleet costs by cost category. Additional detailed cost information and assumptions can be found in my supporting workpapers (SCG-IV-WP, WP4-04).

Table IV-13
AMIR Fleet Total Costs by Type
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Type	2025	2026	2027	2028	2029	
O&M	$ -	$ -	$ 20	$ 65	$ 500	
Capital	-	-	144	98	749	
Total	**$ -**	**$ -**	**$ 164**	**$ 164**	**$ 1,249**	
Forecasted Years: 2030-2034						
Cost Type	2030	2031	2032	2033	2034	**Total**
O&M	$ 2,614	$ 3,757	$ 3,574	$ 2,843	$ 876	**$ 14,247**
Capital	3,921	5,635	5,361	4,264	1,314	**21,485**
Total	**$ 6,534**	**$ 9,391**	**$ 8,934**	**$ 7,107**	**$ 2,189**	**$ 35,732**

Table IV-14
AMIR Fleet Total Costs by Category
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Category	2025	2026	2027	2028	2029	
Vehicles	$ -	$ -	$ -	$ -	$ 922	
Fleet Project Management	-	-	164	164	327	
Total	**$ -**	**$ -**	**$ 164**	**$ 164**	**$ 1,249**	
Forecasted Years: 2030-2034						
Cost Category	2030	2031	2032	2033	2034	**Total**
Vehicles	$ 6,207	$ 9,064	$ 8,607	$ 6,779	$ 1,862	**$ 33,442**
Fleet Project Management	327	327	327	327	327	**2,290**
Total	**$ 6,534**	**$ 9,391**	**$ 8,934**	**$ 7,107**	**$ 2,189**	**$ 35,732**

The total forecast for Vehicles is $33.442 million and reflects the cost of providing vehicles for installers, QA Specialists, Field Supervisors, and Area Managers throughout the deployment period. The forecast includes one mid-sized truck or sedan per assigned personnel, based on operational requirements. Mid-sized vehicles were selected to optimize cost and operational efficiency, providing adequate payload capacity and driving range while reducing leasing, fuel, and insurance expenses compared to larger vehicles options. The forecast was developed using a bottom-up approach informed by current SoCalGas fleet rates, historical data, and SME input. Cost inputs include vehicle leasing, fuel, insurance, and maintenance expenses. Annual vehicle procurement volumes are aligned with field deployment headcount forecasts to

provide adequate coverage during each phase of installation activity. Vehicles costs are projected to occur from 2029 through 2034. Costs are lower in 2029 as initial procurement activities occur, increase between 2030 and 2032 in alignment with peak installer and QA Specialist staffing levels, and decline through 2034 as installation work is completed and fleet requirements are reduced.

The total forecast for Fleet Project Management is $2.290 million and reflects the labor and support required to oversee fleet competitive solicitation (RFI/RFP) process, planning, procurement coordination, vehicle delivery scheduling, and ongoing fleet deployment activities. The forecast was developed using internal labor rates, historical experience from the initial AMI deployment, and SoCalGas SME input. Fleet Project Management costs are projected to occur from 2027 through 2034. Costs are lower in 2027 and 2028 to support fleet planning and fleet vendor selection and increase during the deployment years through the end of installation activity in 2034.

2. AMIR PMO Costs

SoCalGas is requesting recovery of $25.682 million in direct O&M costs and $46.076 million in direct capital costs, totaling $71.759 million in direct costs for PMO activities that provide the governance, coordination, and oversight necessary to manage a complex, multi-year replacement project. These functions include scheduling, budgeting, vendor management, and cross-workstream alignment throughout the project lifecycle. Table IV-15 below provides PMO costs by cost type (O&M and capital). Table IV-16 below provides the PMO costs by category. Additional detailed cost information and assumptions can be found in my supporting workpapers (SCG-IV-WP, WP4-05).

Table IV-15
AMIR PMO Total Costs by Type
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Type	2025	2026	2027	2028	2029	
O&M	$ -	$ 2,806	$ 3,273	$ 2,932	$ 2,949	
Capital	2,915	5,296	4,829	6,013	6,167	
Total	**$ 2,915**	**$ 8,102**	**$ 8,102**	**$ 8,946**	**$ 9,117**	
Forecasted Years: 2030-2034						
Cost Type	2030	2031	2032	2033	2034	**Total**
O&M	$ 2,890	$ 2,753	$ 2,753	$ 2,719	$ 2,608	**$ 25,682**
Capital	5,575	4,237	4,237	3,930	2,876	**46,076**
Total	**$ 8,465**	**$ 6,990**	**$ 6,990**	**$ 6,648**	**$ 5,484**	**$ 71,759**

Table IV-16
AMIR PMO Total Costs by Category
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Category	2025	2026	2027	2028	2029	
Internal Labor and External Labor	$ 2,915	$ 5,802	$ 5,802	$ 6,646	$ 6,817	
Project Facilities	-	2,300	2,300	2,300	2,300	
Total	**$ 2,915**	**$ 8,102**	**$ 8,102**	**$ 8,946**	**$ 9,117**	
Forecasted Years: 2030-2034						
Cost Category	2030	2031	2032	2033	2034	**Total**
Internal Labor and External Labor	$ 6,165	$ 4,690	$ 4,690	$ 4,348	$ 3,184	**$ 51,059**
Project Facilities	2,300	2,300	2,300	2,300	2,300	**20,700**
Total	**$ 8,465**	**$ 6,990**	**$ 6,990**	**$ 6,648**	**$ 5,484**	**$ 71,759**

The total forecast for Internal Labor and External Labor is $51.059 million. This forecast includes costs required to plan, coordinate, and monitor all AMIR Project activities through the PMO. PMO internal and external staffing requirements were determined based on projected resource needs across the AMIR Project. During early phases, PMO activities will focus on RFI/RFP development, contracting, and vendor management. As the program advances and project resource needs expand, additional costs are projected for resource planning and hiring, general support, and overall project quality management. Throughout the project lifecycle, the PMO provides ongoing program governance, project tracking, cross-workstream coordination,

reporting, master schedule management, and budgeting and financial oversight to support effective execution. The forecast was developed based on headcount assumptions informed by the initial AMI deployment, historical experience from other large-scale technology and field implementation programs, and SoCalGas SME input to define project support requirements. More than a dozen distinct PMO workstreams were identified and evaluated to determine the level of support needed across the AMIR Project. These workstreams formed the basis for projected staffing, with resource levels varying by year, depending on specific project needs. On average, each workstream is staffed with one to three resources per year for the duration of the project.

The total forecast for Project Facilities is $20.700 million. The forecast includes lease and facility-related expenses for office space and conference facilities to house PMO and management personnel. Costs also include telecommunications, secure network connectivity, and essential IT infrastructure needed to support daily PMO operations. Facilities requirements are based on an estimated 200 internal and external team members, with approximately 80 to 90 percent requiring dedicated workspace. The forecast is based on historical data and reflects expected occupancy over the duration of the project. PMO labor and facilities costs are projected to occur from 2026 through 2034. PMO costs are projected to be relatively constant in order to support essential PMO activities.

3. Customer Services and Customer & Stakeholder Awareness Costs

SoCalGas is requesting recovery of $56.369 million in direct O&M costs for Customer Services and Customer & Stakeholder (C&S) Awareness activities supporting the field deployment. These costs include AMIR customer billing support, AMIR call center support, and C&S awareness activities. Table IV-17 below provides AMIR Customer Services and C&S Awareness costs by cost type (O&M and capital). Table IV-18 below shows the Customer Services and C&S Awareness costs by cost category. Additional detailed cost information and assumptions can be found in my supporting workpapers (SCG-IV-WP, WP4-06 & WP4-07).

Table IV-17
AMIR Customer Services and C&S Awareness Total Costs by Type
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Type	2025	2026	2027	2028	2029	
O&M	$ -	$ -	$ -	$ -	$ 12,395	
Capital	-	-	-	-	-	
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 12,395**	
Forecasted Years: 2030-2034						
Cost Type	2030	2031	2032	2033	2034	**Total**
O&M	$ 12,900	$ 9,392	$ 9,319	$ 7,512	$ 4,850	**$ 56,369**
Capital	-	-	-	-	-	**-**
Total	**$ 12,900**	**$ 9,392**	**$ 9,319**	**$ 7,512**	**$ 4,850**	**$ 56,369**

Table IV-18
AMIR Customer Services and C&S Awareness Total Costs by Category
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Category	2025	2026	2027	2028	2029	
Customer Services	$ -	$ -	$ -	$ -	$ 938	
C&S Awareness	-	-	-	-	11,458	
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 12,395**	
Forecasted Years: 2030-2034						
Cost Category	2030	2031	2032	2033	2034	**Total**
Customer Services	$ 4,566	$ 5,685	$ 5,648	$ 4,552	$ 2,354	**$ 23,742**
C&S Awareness	8,334	3,707	3,671	2,961	2,497	**32,627**
Total	**$ 12,900**	**$ 9,392**	**$ 9,319**	**$ 7,512**	**$ 4,850**	**$ 56,369**

a) Customer Services

SoCalGas is requesting recovery of $23.742 million in direct O&M costs for Customer Services activities. Table IV-19 below provides Customer Services costs by cost type (O&M and capital). Table IV-20 below provides Customer Services costs by cost category. Additional detailed cost information and assumptions are provided in my supporting workpapers (SCG-IV-WP, WP4-06).

Table IV-19
AMIR Customer Services Total Costs by Type
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Type	2025	2026	2027	2028	2029	
O&M	$ -	$ -	$ -	$ -	$ 938	
Capital	-	-	-	-	-	
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 938**	
Forecasted Years: 2030-2034						
Cost Type	2030	2031	2032	2033	2034	**Total**
O&M	$ 4,566	$ 5,685	$ 5,648	$ 4,552	$ 2,354	**$ 23,742**
Capital	-	-	-	-	-	**-**
Total	**$ 4,566**	**$ 5,685**	**$ 5,648**	**$ 4,552**	**$ 2,354**	**$ 23,742**

Table IV-20
AMIR Customer Services Total Costs by Category
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Category	2025	2026	2027	2028	2029	
AMIR Billing Support	$ -	$ -	$ -	$ -	$ 8	
AMIR Call Center Support	-	-	-	-	930	
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 938**	
Forecasted Years: 2030-2034						
Cost Category	2030	2031	2032	2033	2034	**Total**
AMIR Billing Support	$ 2,024	$ 3,126	$ 3,092	$ 2,545	$ 915	**$ 11,709**
AMIR Call Center Support	2,542	2,559	2,556	2,007	1,439	**12,033**
Total	**$ 4,566**	**$ 5,685**	**$ 5,648**	**$ 4,552**	**$ 2,354**	**$ 23,742**

The total forecast for AMIR Customer Billing Support is $11.709 million and reflects the labor and support required to address billing exceptions resulting from AMIR deployment. As modules are activated and billing data transitions to the new AMI platform, temporary exceptions will be created. The forecast was developed using internal SoCalGas billing data, observed exception rates from the initial AMI deployment, and current billing system operations. Key cost drivers include the frequency of billing exceptions (correlated with installation

volumes), the labor required to research and resolve exceptions, and the timing of peak deployment activity.

The total forecast for the AMIR Call Center Support costs is $12.033 million. This forecast includes the labor and support required to respond to customer inquiries during AMIR deployment. These costs include staffing to handle AMIR-related inquiries, scheduling questions, installation coordination, and customer follow up. The forecast was developed using a bottom-up approach informed by expected call volumes and observed call center patterns from the initial AMI deployment. Key cost drivers include forecasted call frequency, annual installation volumes, training, call routing automation development, and the expected staff required to maintain service levels at scale during the AMIR deployment period. All Customer Services costs are projected to occur from 2029 through 2034, increasing during peak installation years from 2030 through 2033 and declining in 2034 as deployment concludes.

b) C&S Awareness

SoCalGas is requesting $32.627 million in O&M costs for C&S Awareness activities. These costs include customer communications and outreach, materials and support for awareness programs, and activities necessary to prepare and inform customers and stakeholders of AMIR deployment activities. Table IV-21 below provides Customer and Stakeholder Awareness O&M costs by year. Additional detailed cost information and assumptions are provided in my supporting workpapers (SCG-IV-WP, WP4-07).

Table IV-21
AMIR C&S Awareness Total Costs by Category
In 2025 $ (000s)

Forecasted Years: 2025-2029						
Cost Category	2025	2026	2027	2028	2029	
C&S Awareness (O&M)	$ -	$ -	$ -	$ -	$ 11,458	
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 11,458**	

Forecasted Years: 2030-2034						
Cost Category	2030	2031	2032	2033	2034	**Total**
C&S Awareness (O&M)	$ 8,334	$ 3,707	$ 3,671	$ 2,961	$ 2,497	**$ 32,627**
Total	**$ 8,334**	**$ 3,707**	**$ 3,671**	**$ 2,961**	**$ 2,497**	**$ 32,627**

This forecast includes the labor and supporting costs required to plan and execute SoCalGas communications and outreach for the AMIR Project. These costs include materials, advertising, translation services, outreach events, and internal and third-party labor, to inform customers, government agencies, community organizations, and other stakeholders of upcoming installation activities. These efforts support operational safety, customer awareness, and transparency throughout field deployment. SoCalGas customers are no longer accustomed to on-site meter access following the elimination of manual meter reading; therefore, early and clear communication is necessary to facilitate safe property access for deployment workforce. Proactive engagement also helps mitigate safety risks associated with imposters or fraud by providing official, verifiable information about SoCalGas personnel and activities.

The forecasted costs were developed using experience from the initial AMI deployment and subsequent experience from SoCalGas customer-facing programs and benchmarked against historical communication campaign costs and current vendor rates. Cost inputs include salary rates for outreach and communications personnel, projected advertising volumes, and the anticipated level of customer contact throughout deployment years. C&S Awareness costs are projected to peak in 2029 and 2030, driven by creative development, media production, printed material procurement, campaign design, and media distribution activities required to support AMIR Project outreach. Beginning in 2031, these costs decline and become constant, reflecting a steady-state level of engagement during the mass deployment phase.

IV. AMIR PROJECT DEPLOYMENT ROADMAP

A. AMIR Project Deployment Roadmap (2025-2034)

The AMIR Deployment Roadmap organizes field execution into two phases – Phase 1: Deployment Readiness (2025 – 2028) and Phase 2: Mass Field Deployment (2029 – 2034). There is one continuous support track spanning the entire program: the PMO (2025 – 2034).

Figure IV-3
AMIR Deployment Project Roadmap and Timeline
2025 – 2034

1. Phase 1: Deployment Readiness (2025-2028)

The AMIR Project follows a structured, multi-year roadmap for transitioning from SoCalGas's existing AMI system to a modern, secure, and scalable platform between 2025 and 2034. The roadmap defines the sequence, timing, and coordination of field deployment, PMO, and customer services and C&S awareness activities necessary to deploy and transition to the new AMI system.

a) 2025-2028 – Planning, Program Mobilization, and Readiness

This period establishes the foundation for field deployment activities by developing the operational framework, contracts, workforce, and infrastructure needed for deployment.

- Establish PMO: Establish governance, scheduling, reporting cadence, plan for field deployment, support vendor contracting and RFI/RFP processes.
- Vendor Contracts: Finalize deployment vendor selection and execute agreements, including those supporting warehousing and fleet.
- Initiate MQM-Phase 1: Engineers to perform design reviews and prototype testing.
- Warehouse Selection and Planning: Locate warehousing sites to stage materials, tools, and equipment to support the 2029 initial installation group.
- Plan for Fleet Procurement: Establish a plan for procuring vehicles to support the deployment workforce.
- Process Design and Policy Development: Define policies and standard operating procedures to guide consistent installation and deployment related process execution.

2. Phase 2: Mass Field Deployment and Operations (2029 – 2034)

a) 2029 – Initial Deployment

This year serves as the bridge between system validation and full deployment.

- Finalize Initial Warehousing Leases and Build-outs: Secure lease agreements and complete facility modifications to prepare for operational use.
- Fleet Delivery and Modification: Initiate vehicle branding and upfitting to support needs of deployment workforce.
- Back-Office Support: Staff back-office support roles to enable clerical, dispatching, operational analysis, technical support, scheduling, and data validation deployment functions.
- Launch Training Program: Design and launch training program, including the new-technician and existing technician trainings.
- Begin Customer Services and C&S Awareness: Begin customer billing and call support functions. Initiate engagement efforts for safe access and early awareness.
- Initial Deployment: Deploy approximately 25,000 modules to validate system integration, logistics, workforce efficiency, and data flow.
- Start Installation QA: Refine installation metrics and QA inspection protocols based on initial installations.

b) 2030 – 2034 – Full Deployment

This period represents the core field deployment phase.

- Ramp Up Installer Workforce: Increase workforce as installations increase and expand geographic deployment.
- MQM: MQM production sampling to maintain asset quality.
- Scale Deployment Activities: Increase and reduce various deployment areas to align with installation activity, including QA, warehousing, fleet, training, and Customer Services and C&S Awareness.

c) 2034 - Closeout and Transition to Steady Sate

The final project year focuses on completing installations, decommissioning temporary facilities, and transitioning to ongoing operations.

- Decommission regional warehouses and release leased facilities.
- Finalize billing reconciliations and data validation.
- Transition steady-state operations to SoCalGas business units.

3. Support Function Across All Phases

a) 2025 – 2034 – Project Management Office

The PMO directs and coordinates all deployment workstreams, supporting project accountability and schedule adherence.

- Provide governance, coordination, and reporting across all deployment workstreams.
- Oversee vendor management, cost tracking, and schedule control.
- Maintain PMO oversight through project closeout.

V. CONCLUSION

The deployment activities described in my testimony form the operational backbone of the AMIR Project. The field deployment work, encompassing endpoint deployment, field training, installation, removal, and QA activities, provides the foundation for replacing modules safely and efficiently across SoCalGas's service territory. Deployment support functions, including MQM and the deployment back office, provide oversight, performance management, and issue resolution throughout the rollout. Warehousing and Fleet, through their materials handling, staging, distribution, and fleet responsibilities, enable timely delivery of equipment and supports field deployment. The PMO provides centralized governance controls and coordination to keep field deployment on schedule and within budget. Customer Services and C&S Awareness activities allow customers to remain informed, engaged, and supported. The cost forecasts, organizational structure, and implementation approach presented in my testimony reflect a prudent and cost-efficient plan to execute the system wide replacement.

This concludes my prepared direct testimony.

VI. WITNESS QUALIFICATIONS

My name is Linden S. Olah. I am employed by Southern California Gas Company (SoCalGas) as the AMIR Field Deployment Workstream Manager. My business address is 555 West Fifth Street, Los Angeles, CA 90013. I have over 20 years of experience with SoCalGas in customer service, infrastructure support, and distribution operations. In my current role, I am responsible for all field operations-related tasks leading up to and including the successful deployment of over six million advanced meter module replacements. I have held a variety of management positions at SoCalGas, including roles in Training and Development, Compliance Assurance, Distribution Project Management, and Distribution Performance & Resource Management. I received a Bachelor of Arts in Business Administration from the University of La Verne. I have not previously testified before the Commission.