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PREPARED DIRECT TESTIMONY OF
BRADLEY M. BAUGH, DANIELLE N. DE CLERCQ, AND DAVID H. THAI
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY
CHAPTER 4
(SM 2.0 IMPLEMENTATION)



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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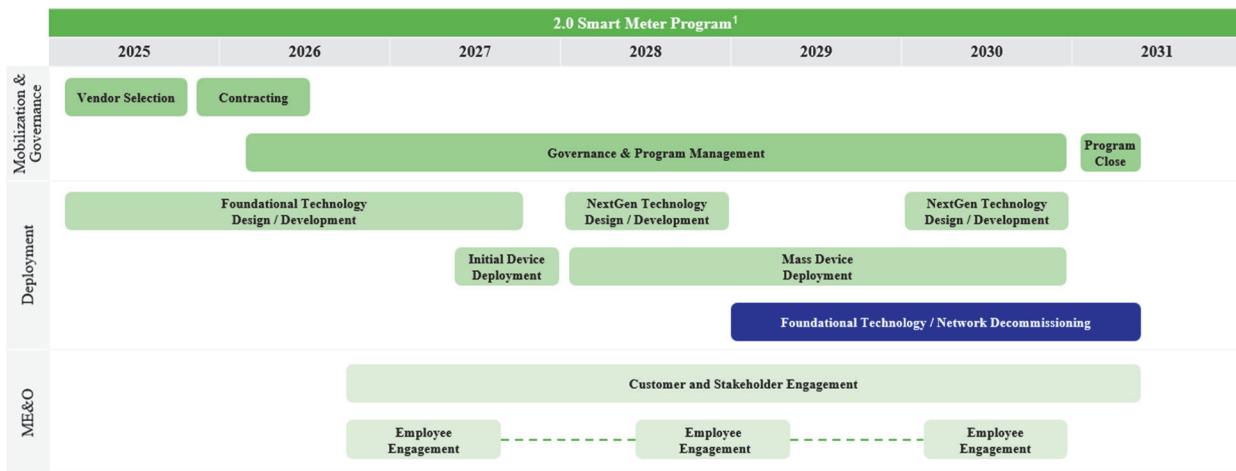
I. INTRODUCTION

This chapter outlines San Diego Gas & Electric Company's (SDG&E) approach for implementing the proposed Advanced Metering Infrastructure (AMI) end-to-end solution, which includes both implementation of Smart Meter (SM) 2.0 and retirement of certain elements of SM 1.0, along with other related implementation support. SDG&E's proposed approach reflects four key objectives: 1) establish the SM 2.0 IT infrastructure to ensure the new SM 2.0 meters and modules are operational immediately upon installation, 2) preserve SM 1.0 performance until full transition to SM 2.0 is complete, 3) replace electric meters and gas modules while minimizing disruptions, and 4) keep customers, stakeholders and employees informed and engaged throughout the transition.

II. IMPLEMENTATION TIMELINE

SDG&E's SM 2.0 implementation is structured as a six-year program. The timeline begins with program mobilization, which includes vendor selection, contracting, establishing governance, and program management frameworks. Following mobilization, the focus shifts to foundational IT development and implementation. Subsequent phases involve the deployment of electric meters and gas modules across the service territory. Midway through the timeline, SDG&E will implement key Next Gen capabilities (discussed in Chapter 3) to enhance customer engagement and operations. The final stage encompasses the retirement of legacy SM 1.0 technologies and a comprehensive program close-out, ensuring a seamless transition to the upgraded platform. Each element of the implementation timeline is shown in Figure 4-1 below.

Figure 4-1
SM 2.0 Implementation Timeline



It is important to note that this proposed deployment schedule depends on the timing of issuance of the California Public Utilities Commission's (Commission or CPUC) decision in the instant proceeding and is subject to change.

III. PROGRAM MOBILIZATION & GOVERNANCE

The mobilization phase includes two key activities: finalizing procurement (*i.e.*, vendor selection and contracting) for critical vendors as well as a robust governance framework to guide the overall program to ensure transparency, accountability, and alignment across all workstreams. Establishing a robust governance and program management framework is vital during this phase. This framework will ensure that SDG&E delivers the program with the highest quality while adhering to the overall timeline and budget.

A. Vendor Selection and Contracting

As discussed in Chapter 3, SDG&E conducted a comprehensive vendor selection process that included a thorough evaluation of costs, technological capabilities, supply chains, and other factors to ensure the optimal choice for customers. Based on this procurement process, SDG&E has tentatively selected the vendor responsible for supplying the hardware and software

1 identified during the Request for Proposals (RFP) process described in Chapter 3, and is
2 currently engaged in contract negotiations. In addition, SDG&E will also secure support from
3 additional vendors necessary for SM 2.0 implementation, including the business integrator and
4 system integrator who will manage the program, design the new solution, and support
5 development and testing to ensure all requirements are met, as well as the third-party installation
6 vendor who will partner with internal workforce to ensure the timely and safe deployment of
7 electric meters and gas modules.

8 **B. Governance and Program Management**

9 Given the scope of work involved in the transition to SM 2.0 and its company-wide
10 impacts, SDG&E will develop a governance model to guide the transition process. The
11 governance framework will establish clear protocols for managing: (1) costs; (2) decision-
12 making; (3) programmatic risks/issues; (4) change control; (5) quality assurance; (6) resourcing;
13 (7) performance reporting; (8) collaboration; (9) schedule management; and (10) customer
14 privacy management. This governance framework will be employed throughout the project to
15 facilitate change management, vendor selection and negotiations, customer engagement, and the
16 deployment of new gas modules and electric meters. Ultimately, it prioritizes the cost-effective
17 delivery of the program by leveraging risk resolution mechanisms and fostering cross-company
18 alignment.

19 Additionally, SDG&E will ensure that SM 2.0 implementation complies with its
20 Customer Privacy Framework, detailed in Appendix A, which is administered by SDG&E's
21 Office of Customer Privacy (OCP). The framework is designed to protect customer privacy,
22 ensure conformity with complex privacy laws and regulations, and reduce privacy risk. It
23 operates to minimize the collection of unneeded customer information and to limit disclosure of
24 only necessary customer information with authorized parties. SDG&E's OCP also works

1 alongside SDG&E's cybersecurity function to ensure that appropriate security controls are in
2 place to protect customer information through the information's lifecycle. Customer Privacy
3 Framework is based on industry-standard frameworks, including the Generally Accepted Privacy
4 Principles (GAPP) and Privacy by Design (PbD). It uses a risk-based approach to reviewing
5 privacy practices, controls and resulting potential risks for programs such as the AMI Program.

6 **IV. DEPLOYMENT**

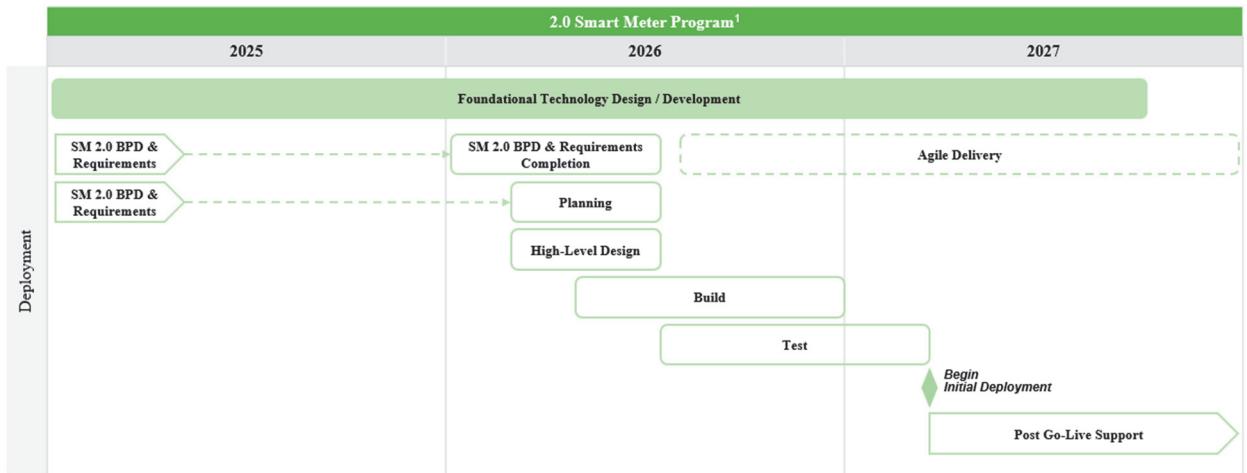
7 The deployment phase involves three key activities: (1) design and development of the SM
8 2.0 Foundational Technology, which is necessary to support SM 2.0 base capabilities;¹ (2) the
9 initial and mass deployment of SM 2.0 devices; and (3) design and development of NextGen
10 Technology, which is necessary to support the enhanced NextGen capabilities described in
11 Chapter 3. These activities are described in more detail below.

12 **A. Foundational Technology Design and Development**

13 Foundational SM 2.0 systems, such as the new Head-End System (HES), Long-Term
14 Evolution (LTE) network, and downstream integrations and system remediations must be fully
15 configured, integrated, tested and implemented in production before the first SM 2.0 gas module
16 or electric meter is deployed. This effort is projected to span 22 months, including 16 months
17 from project planning through go-live, followed by six months of post go-live support processes
18 as outlined in Figure 4-2.

¹ As discussed in Chapter 3, to enable deployment of SM 2.0 devices in 2027, Foundational Technology must be implemented in 2027. Thus, SDG&E will initiate development of Foundational Technology in 2026, even as this application proceeds through the regulatory process.

1
2 **Figure 4-2**
Foundational Technology Implementation Timeline



3
4 SDG&E will design business process documents along with comprehensive requirements
5 for the new HES, the SM 2.0 network, integrations, analytics, and grid edge² computing use
6 cases. A combination of internal and external resources will be leveraged for planning, system
7 integration, testing, software implementation, and post go-live support processes.

8 A project plan will be developed to define scope, objectives, timelines, resources, and
9 dependencies for the implementation of foundational and NextGen technology. This plan will
10 ensure all technical and business requirements are organized in a structured roadmap for
11 successful execution.

12 A supporting high-level design will define operating specifications, including
13 architectural considerations for new SM 2.0 software and hardware. Functional specifications
14 will be created by analyzing the business process documents at a more detailed level and
15 determining how the foundational and NextGen technology should be designed to achieve

² Grid Edge Applications: These applications are software embedded in SM 2.0 electric meters that process data locally at the meter. They enable near real-time analysis of granular data and can take immediate actions, such as interacting with customer devices, without waiting for back-office systems.

1 program objectives.

2 SDG&E will follow an Agile systems development methodology, emphasizing
3 flexibility, collaboration, and iterative development and testing cycles.

4 The Foundational Technology build process focuses on developing applicable IT and
5 network components including updates to existing systems such as the Meter Data Management
6 System (MDMS), Customer Information System (CIS), Outage Management System (OMS),
7 and new system integrations. It also includes preparations for system testing and training
8 personnel to support and use the solution.

9 In parallel with the build processes, testing will verify the end-to-end Foundational
10 Technology functionality. Testing will involve the AMI vendor, the system integrator, the
11 business integrator, and SDG&E, and will include multiple phases to ensure requirements have
12 been met and can deliver program objectives.

13 The implementation/go-live phase completes final preparation for the system's go-live,
14 followed by production implementation of the new systems, integrations, as well as updates to
15 existing system. Upon successful completion, the team will go-live with the SM 2.0 Systems,
16 which will allow the installation of a controlled set of gas module and electric meter
17 replacements during the post go-live support period.

18 Once electric meters and gas modules start to be installed in production, the post go-live
19 support processes will begin a period of heightened activities, including documentation of
20 defects and workarounds, critical defect resolutions, and communications to internal customer
21 and IT organizations. The initial meter deployments will begin to run through a production
22 validation checklist to confirm that all scenarios are functioning as expected, and conduct fixes
23 deployed through a series of smaller production changes.

1 On a parallel timeline, work will commence on the implementation of any system
2 enhancements and integrations necessary to support mass deployment and the mass deployment
3 vendor's systems.

4 **B. Initial and Mass SM 2.0 Device Deployment**

5 The SM 2.0 device deployment strategy is designed to ensure cost-effectiveness by
6 minimizing further investment in SM 1.0 technology, and to reduce operational and customer
7 impacts. SDG&E's proposed implementation timeline involves four stages, as shown in Figure
8 4-3: (1) continued SM 1.0 device deployment and transition to SM 2.0; (2) SM 2.0 initial
9 deployment; (3) SM 2.0 mass deployment; and (4) transition to SM 2.0 steady state.

10 **Figure 4-3**
11 **SM 2.0: Deployment Timeline**



12 ¹ Assumes Commission approval in 2027

13 **1. SM 1.0 Device Deployment and Transition to SM 2.0**

14 As SDG&E begins to implement the supporting network and IT systems for SM 2.0 in
15 2026 and 2027, the SM 1.0 mesh network will remain operational and SDG&E will continue the
16 replacement of existing SM 1.0 gas modules and electric meters on a like-for-like basis, as
17 appropriate. Like-for-like replacement of existing SM 1.0 electric meters and gas modules is
18 necessary until such time that the SM 2.0 systems are ready to collect billing information and

1 other data from SM 2.0 electric meters and gas modules.³

2 In 2027, SDG&E plans to have completed the installation of the new network and IT
3 systems (Foundational Technology) and will be prepared to install the SM 2.0 electric meters
4 and gas modules. By the time SDG&E completes Stage 1, several other critical activities will
5 have been completed to prepare for the deployment of SM 2.0 electric meters and gas modules.
6 These activities include fully onboarding the Installation Vendor (hiring and training of
7 installation resources), completing first article testing of the new modules and meters,
8 procurement of initial meters and modules, and initiating early customer communications as
9 outlined in the Marketing, Education and Outreach plan.

10 **2. SM 2.0 Initial Deployment**

11 SDG&E will begin initial deployment of the SM 2.0 electric meters and gas modules in
12 2027 and cease like-for-like replacement of SM 1.0 devices. During 2027, SDG&E will monitor
13 the operations of the new installations and address issues that arise (e.g., firmware bugs, signal
14 propagation challenges, systems integration issues). This stage will involve deploying various
15 configurations (single commodity, dual commodity), across different geographies and customer
16 types. The initial deployment will provide valuable insights for SDG&E prior to mass
17 deployment beginning in 2028. This iterative approach, successfully used by other utilities
18 implementing SM 2.0, helps refine the solution on a smaller scale, minimizing potential impacts
19 on operations and customers. At the conclusion of Stage 2, approximately 5% of the
20 replacements will have been achieved.

³ This will require completion of several other critical activities to prepare for the deployment of SM 2.0 electric meters and gas modules. These activities include fully onboarding the Installation Vendor (hiring and training of installation resources), completing first article testing of the new modules and meters, procurement of initial meters and modules, and initiating early customer communications as outlined in the Marketing, Education and Outreach plan.

1 Accelerated mass deployment of gas modules and electric meters will then begin in 2028 and
2 carry through anticipated completion in 2030.

3 **3. SM 2.0 Mass Deployment**

4 SDG&E will begin SM 2.0 mass deployment in 2028. Identified critical failure rates and
5 geographical patterns underscore the urgency of addressing aging infrastructure in a
6 comprehensive and systematic way. As the SM 1.0 electric meters and gas modules near the end
7 of their useful life, SDG&E will prioritize deployment in geographic areas with escalating failure
8 rates. This data-driven approach enhances reliability and minimizes disruptions to customer
9 service during the transition.

10 As SDG&E transitions to SM 2.0, operational challenges may evolve and deployment
11 may need to be adjusted. To adapt, SDG&E will implement a flexible deployment framework
12 that allows for adjustments based on data and feedback from the field. By employing robust
13 monitoring and advanced analytics, SDG&E can continuously evaluate the performance of both
14 SM 2.0 devices and the remaining SM 1.0 devices. If failure rates increase in previously low-
15 risk geographic areas, SDG&E's strategy will enable resource reallocation to address these
16 challenges.

17 SDG&E's optimized deployment will also systematically balance electric meter and gas
18 module replacements with SM 1.0 network mitigation. This holistic deployment plan allows
19 SDG&E's teams to prioritize replacements in a manner that causes the least impact on
20 customers. For example, SDG&E will implement targeted network strategies or remedies to
21 maintain a strong 1.0 network while 2.0 replacements are occurring. Ultimately, SDG&E is
22 committed to ensuring a responsive and resilient system. At the conclusion of this stage,
23 approximately 100% of replacements will have been achieved.

1 **4. Transition to SM 2.0 Steady State**

2 By the end of 2030, SDG&E's legacy fleet of electric meters and gas modules will have
3 been fully replaced. SDG&E will then decommission the SM 1.0 system and network, and
4 transition to regular operations. Figure 4-3 above shows the projected annual deployment
5 volumes needed to achieve the transition to SM 2.0 steady state.

6 Subsequently, RFLAN mesh network decommissioning of SM 1.0 field devices will
7 occur. This involves removing legacy field devices after each geographic area has replaced all
8 1.0 electric meters and gas modules. Finally, IT decommissioning will take place once all SM
9 1.0 electric meters and gas modules connected to the 1.0 HES have been replaced.

10 **C. NextGen Technology Design and Development**

11 After the SM 2.0 Foundational Technology is implemented and SM 2.0 electric meter
12 and gas module deployment is underway, the vendor SaaS analytics platforms and grid edge
13 applications will be put in place to facilitate the NextGen electric capabilities described in
14 Chapter 3. The implementation schedule for these capabilities is outlined in Figure 4-4.

15 **Figure 4-4**
16 **NextGen Technology Implementation Timeline**

2.0 Smart Meter Program ¹			
	2028	2029	2030
<i>Deployment</i>	<i>Begin Mass Deployment</i>		
	NextGen Technology Design / Development	NextGen Technology Design / Development	NextGen Technology Design / Development
	Customer Insights: Real-Time Energy Monitoring	Meter-to-Transformer Mapping	Phase Identification
		Transformer Health & Load Management	
		Foundational Technology / Network Decommissioning	
			IT Decommissioning

17 ¹ Assumes Commission approval in 2027

1 To implement these capabilities, the HES will need to deploy grid edge applications to
2 SM 2.0 electric meters for local analysis, while the SaaS analytics platform is configured and
3 integrated with back-office systems to process data from multiple sources. Additional meter-to-
4 cloud connectivity will be procured to handle incremental data being transmitted from the meter.

5 For customer insights: real-time energy monitoring, processes for enrollment and
6 unenrollment will need to be designed and developed, and integrations will be built to pull
7 anonymized disaggregated customer load data into the SDG&E analytics systems. As referenced
8 in Chapter 3, this capability will be available to all SDG&E residential customers that receive a
9 SM 2.0 electric meter but will only be enabled for those customers who elect to opt-in. The
10 process for opting in will be included in Phase 3 of SDG&E’s Marketing, Education & Outreach
11 (ME&O) plan, as mentioned in the ME&O section below.

12 For meter transformer mapping, phase identification, and transformer load management,
13 data from Geographical Information System (GIS) and CIS must be consolidated into the
14 vendor’s SaaS analytics platform to create a baseline connectivity model. Also, integrations will
15 be built to pull corrected phase and transformer mapping data from the SaaS analytics platform
16 into SDG&E back-office systems, including GIS, OMS, and CIS.

17 After setup, extensive testing is needed to validate algorithms, fine-tune performance, and
18 ensure security and privacy, so the capabilities can be fully utilized. After go-live, post support
19 processes will start a period of heightened activities including critical defect resolutions,
20 documentation of defects and workarounds, and communications to stakeholders. SDG&E will
21 run through a production validation checklist to confirm that all scenarios are functioning as
22 expected, and transition to ongoing operations.

1 **V. MARKETING, EDUCATION AND OUTREACH**

2 **A. Purpose and Guiding Principles**

3 Stakeholder engagement and education are cornerstones of a successful AMI Program,
4 and SDG&E is committed to building a proactive, inclusive, and transparent approach that meets
5 the evolving needs and expectations of its diverse customer base. This commitment ensures that
6 every customer has equitable access to information and the tools needed to make informed
7 decisions. SDG&E has designed a comprehensive ME&O plan that offers a clear timeline,
8 formal communication channels, and effective coordination with stakeholders. The ME&O plan
9 emphasizes transparency in messaging, inclusivity in outreach, and customer empowerment
10 through education and self-service resources. By incorporating a robust framework for a
11 seamless transition to SM 2.0, SDG&E aims to ensure that customers are able to fully leverage
12 the benefits of this new technology.

13 **B. Goals and Objectives**

14 SDG&E's ME&O Plan is driven by a clear set of goals and objectives, including:

- 15 • Educating stakeholders and customers on the purpose and potential benefits of
16 SM 2.0.
- 17 • Setting expectations for implementation through employee/contractor field visits.
- 18 • Preparing customers to utilize new tools and functionalities.
- 19 • Providing resources for stakeholders and customers to find more information.

20 SDG&E's ME&O strategies for success include:

- 21 • Using a multi-channel/multi-phased approach to maximize awareness,
22 understanding and acceptance of SM 2.0.
- 23 • Providing simple, transparent, and bi-lingual communications.

- 1 • Training employees and contractors to effectively communicate SM 2.0 program
 2 related changes with customers.
- 3 • Collaborating with key stakeholders and leveraging Community Based
 4 Organizations (CBOs) to assist with educating hard-to-reach customer groups.

5 **C. Strategic Framework**

6 To achieve the objectives identified above, SDG&E has developed a strategic framework
 7 that outlines phased communications and engagement tactics. To facilitate a successful
 8 implementation, SDG&E's ME&O plan employs engagement across the following three phases:
 9 (1) Awareness, (2) Understanding, and (3) Enablement. This phased approach, as illustrated in
 10 Figure 4-5 below, will provide customers with information, support, and tools at key intervals to
 11 help them navigate the SM 2.0 transition with confidence.⁴

12 **Figure 4-5**
 13 **SM 2.0 Marketing, Education and Outreach Plan**

2.0 AMI Program ¹			
	Foundational IT Systems 2026	Initial Deployment 2027	Mass Deployment 2028-2030
Phase 1: Awareness	Develop stakeholder awareness and employee training		
Phase 2: Understanding		Prepare customers and stakeholders for mass deployment	Ongoing employee and contractor training / engagement
Phase 3: Enablement			Educate customers on new customer-facing Smart Meter 2.0 capabilities

14 ¹ Assumes Commission approval in 2027

15 ⁴ The plan is subject to modification in response to evolving conditions throughout the project lifecycle.

1 **1. Phase 1: Awareness**

2 The purpose of Phase 1 is to develop customer and stakeholder awareness – *i.e.*, to set the
3 context for SM 2.0, including why it is being implemented and when it will take effect. This
4 stage will include basic education on the rationale for replacing existing gas modules and electric
5 meters, as well as introduce the expected benefits. SDG&E will utilize existing channels, such
6 as the Customer Care Center, My Energy Center and sdge.com to provide information and
7 resolve inquiries throughout implementation.

8 **2. Phase 2: Understanding**

9 Phase 2 occurs in the build up to meter and module deployment to prepare customers for
10 the installation of physical gas modules and electric meters at their premises. It ensures that
11 customers and stakeholders understand the installation process and their options. SDG&E will
12 implement strategic communications leading up to the installation date, keeping channels open to
13 address inquiries and concerns.

14 **3. Phase 3: Enablement**

15 In Phase 3, SDG&E will focus on educating customers about the functionalities of SM
16 2.0 smart meters available after installation. The priority of this stage is to educate and enable
17 customers to interact with their NextGen Smart Meter and benefit from the new technology.

18 **4. Integration of Best Practices**

19 The ME&O Plan will leverage best practices from recent initiatives, such as SDG&E's
20 Base Service Charge (BSC) rollout, to ensure effective communication before, during, and after
21 implementation. SDG&E plans to utilize various channels and tactics to form an integrated
22 campaign in support of the SM 2.0 transition, including direct-to-customer communications,
23 stakeholder engagement, and leveraging existing SDG&E-owned channels.

1 **D. Engagement Channels and Tactics**

2 **1. Community Engagement**

3 To effectively implement the transition to SM 2.0, SDG&E prioritizes meaningful
4 stakeholder and community engagement. SDG&E recognizes the critical role of external
5 stakeholders, third-party organizations, and local communities in ensuring successful
6 implementation of SM 2.0. SDG&E actively fosters strategic collaboration with various external
7 stakeholder groups, which provides an additional trusted communication channel to help
8 understand and meet customers' specific needs.

9 Through close collaboration and partnerships with external stakeholders including local
10 agencies, tribal communities, and Community Choice Aggregators (CCAs), SDG&E will
11 promote clarity around the objectives of the transition to SM 2.0 in order to strengthen trust and
12 transparency. Information will be provided to ensure that these stakeholders understand the
13 purpose and benefits of the SM 2.0 transition, enabling them to address potential questions from
14 their constituents. To ensure transparency and support, relevant talking points and training
15 materials will also be shared with CCAs, enabling them to direct customer inquiries to the
16 appropriate resources.

17 SDG&E will strategically leverage its network of approximately two hundred CBOs,
18 collectively called the Energy Solutions Partner Network, to help educate customers about SM
19 2.0. These organizations reflect the diverse demographics of SDG&E's customer base within its
20 service territory, often reaching smaller, more defined groups, such as residential, commercial, or
21 industrial customers, more effectively than mass communications due to their grassroots
22 involvement and trusted community relationships. Many of these CBOs serve individuals with
23 Access and Functional Needs (AFN), multicultural, multilingual, low-income, seniors, and
24 Limited English Proficient (LEP) audiences in communities of concern. These CBOs employ a

1 variety of tactics, including messaging through email and social media channels, posting
2 information on their websites, and providing booth space at in-person events. In-language
3 materials will be produced based on the target audience and at the request of our CBOs.

4 **2. Marketing Channels**

5 To maximize reach and engagement, SDG&E will leverage a variety of marketing
6 channels to meet the needs of different customer segments and ensure equitable outreach across
7 all audiences. This includes utilizing our website as a central hub for resources, amplifying
8 messaging through existing owned channels, and deploying direct notifications to ensure timely
9 and personalized communication. By diversifying marketing methods, SDG&E can promote
10 equitable access to information and ensure that all audiences – regardless of preferred
11 communication platform – receive clear and consistent messaging over multiple touchpoints.

12 **a. Digital**

13 SDG&E's website is an important channel to support and educate customers and is a
14 convenient, always accessible source of self-service information. It is also a key resource to help
15 reduce the volume of follow-up calls to SDG&E's Customer Care Center. Relevant website
16 content with background information and Frequently Asked Questions (FAQs) on SDG&E's
17 AMI Program, specifically focused on SM 2.0, will be available in multiple languages via the
18 Google translate tool.

19 SDG&E will leverage My Energy Center (MEC) as a tool to promote awareness and
20 engagement for SM 2.0. While customers utilize their energy usage data to understand and
21 manage their monthly bills, they can also receive personalized energy savings tips and make
22 informed choices that meet their household needs. With intuitive dashboards, energy-saving
23 recommendations, rate-comparison tools, and new features such as push notifications, MEC
24 enables every SDG&E customer with the resources to stay in control of their energy costs while

1 engaging with the benefits of SM 2.0. Targeted messaging will also be provided within MEC to
2 further highlight the SM 2.0 capabilities.

3 **b. Existing Owned Channels**

4 SDG&E will leverage its existing owned channels to communicate the benefits of the SM
5 2.0 transition and related information where applicable and appropriate. Specific channels
6 include:

- 7 • Bill inserts and on-bill messaging to capture attention and reinforce key benefits
8 during transactional monthly interactions.
- 9 • Organic social media through SDG&E-owned accounts on platforms including
10 but not limited to Facebook, X, Instagram and Nextdoor, to reach customers with
11 engaging content promoting SM 2.0 benefits and implementation updates.
- 12 • Printed materials, such as door hangers and fact sheets for customers who prefer
13 traditional communications or who may have limited digital access.

14 **c. Direct Notification**

15 Direct marketing tactics will be part of specific campaigns leveraging customer
16 segmentation data. Direct notification channels, such as email and direct mail, will be used to
17 inform customers of the transition to SM 2.0 and direct them online to learn more. This approach
18 will inform customers about the process, installation schedules and available capabilities.

19 **d. Employee and Contractor Training**

20 SDG&E will establish a comprehensive training plan as a core component of its customer
21 engagement strategy. This training will ensure that employees and contractors understand the
22 new processes, communication protocols, and technologies, while also preparing customer-
23 facing teams to be confident, comfortable, and proficient in supporting customers through SM

1 2.0 implementation.

2 **E. Customer Support and Feedback Mechanisms**

3 **1. Stakeholder Feedback**

4 SDG&E understands the importance of addressing inquiries related to SM 2.0
5 implementation to provide transparency and build trust. By addressing questions openly and
6 offering useful information – such as explaining installation steps and how customers can access
7 near real-time usage data – SDG&E will reinforce confidence in the AMI Program. These
8 inquiries also serve as a valuable feedback channel, highlighting areas where customers need
9 clearer communication or additional support. SDG&E will capture and analyze this input to
10 inform program improvements, enhance training for internal teams, and refine external
11 communication materials. This approach will not only resolve immediate inquiries but also
12 strengthen long-term engagement by aligning SM 2.0 implementation with customer
13 expectations.

14 **2. Customer Opt-Out**

15 While SDG&E intends to address all customer concerns through the Customer Care
16 Center and other established channels, SDG&E acknowledges that some customers may choose
17 to opt-out of the SM 2.0 implementation. To facilitate this request, SDG&E will provide
18 customers with instructions for opting out via an online form and a dedicated telephone number.
19 Customers who elect to opt out will be informed of the initial and ongoing applicable fees.
20 These customers must opt out of the SM 2.0 program using the appropriate channels described
21 above. Currently, there are ~3,500 (~2,000 electric and ~1,500 gas) customers who have opted
22 out of the SM 1.0 program who will not be affected by the SM 2.0 transition. While these
23 customers will remain opted out, SDG&E will provide communications to inform them of the
24 benefits and enhanced functionalities of SM 2.0, as appropriate.

1 **F. Reporting & Metrics**

2 To ensure the success of the SM 2.0 transition, SDG&E will measure and analyze
3 engagement and effectiveness across its ME&O efforts. Because the SM 2.0 transition impacts a
4 large portion of SDG&E's customer base and represents a significant infrastructure upgrade,
5 clear, data-driven insights will help confirm that customers are informed, prepared, and
6 supported throughout the transition. Tracking and reporting key metrics will allow SDG&E to
7 understand what is working, identify where adjustments are needed, and gauge how well it is
8 meeting customer expectations. To maintain a consistent pulse in these areas, metrics tracked
9 will include:

- 10 • **Number and type of outbound targeted communications** – to track the reach
11 and frequency of SDG&E's direct messaging to ensure that customers receive
12 timely and relevant information.
- 13 • **Email open and click through rates** – to measure engagement with digital
14 communications, indicating whether customers are interacting with the resources
15 provided.
- 16 • **Number of visits to SDG&E's dedicated webpage** – to reflect customer interest
17 and utilization of self-service tools and educational content.
- 18 • **Total call volume and type of customer inquiries** – to identify gaps in
19 communication or areas where messaging needs to be supported.
- 20 • **Total customer opt-outs** – to provide insight into customer sentiment and
21 preferences while helping SDG&E address concerns proactively.

- **Customer satisfaction survey** – to measure overall customer sentiment and understanding of SM 2.0 capabilities to ensure that SDG&E is delivering intended value.

By monitoring these indicators, SDG&E can continuously refine outreach strategies, improve customer experience, and maintain transparency during the transition to SM 2.0.

VI. CONCLUSION

In summary, SDG&E's approach to implementing the proposed SM 2.0 end-to-end solution is guided by four core principles, which focus on providing a reliable transition. The framework outlined above is intended to enable functionality of SM 2.0 technology, minimize operational and customer impacts, and foster transparent engagement with all stakeholders. SDG&E believes these guiding principles will provide the foundation to deliver an efficient and customer-focused meter infrastructure modernization.

The SM 2.0 initiative program marks a pivotal transition for SDG&E, closing the chapter on its first-generation metering technology and moving to a more advanced future. Spanning over six years, this initiative begins by laying the groundwork through governance structures, with vendor selection and contracting as well as establishing program management. From there, SDG&E will accelerate into technology development, followed by the large-scale deployment of electric meters and gas modules across the region. As the program progresses, NextGen features will be introduced to enhance customer engagement and improve operational performance. The initiative concludes with the complete retirement of SM 1.0 and a structured close-out process, ensuring a seamless transition to a modernized platform that paves the way for continued innovation.

1 This transition allows SDG&E to be more equipped to meet the demands of a rapidly
2 changing energy landscape while continuing to provide reliable service and enhanced
3 experiences for every customer. SM 2.0 is the foundation for what comes next – a smarter, more
4 connected grid that positions SDG&E at the forefront of the energy future.

5 This concludes our prepared direct testimony.

1 **VII. WITNESS QUALIFICATIONS FOR DAVID H. THAI**

2 My name is David Thai. I am employed by SDG&E as the Strategic Initiatives Manager.
3 My business address is 4949 Greencraig Lane, San Diego, California, 92123. My current
4 responsibilities include overseeing SDG&E's next generation smart meter strategy and program,
5 and providing engineering expertise in the areas of AMI networks and metering engineering. I
6 assumed my current position in 2024. I have been employed by SDG&E since 2008 and have
7 held engineering positions of increasing responsibility in Substation Construction and
8 Maintenance, Distribution Planning, Transmission Engineering and Project Management. I have
9 held numerous leadership positions as Grid Operations Technical Support Manager, Electric and
10 Fuel Procurement Origination Analytics Manager, and Smart Meter Operations Manager.

11 I hold a Bachelor of Science degree in Electrical and Electronic Engineering from
12 California State University, Sacramento and a Master of Science degree in Electrical
13 Engineering from San Diego State University. I am also a licensed Professional Engineer in the
14 State of California.

15 I have previously testified before the Commission.

1 **VIII. WITNESS QUALIFICATIONS FOR BRADLEY M. BAUGH**

2 My name is Bradley M. Baugh, and I serve as a Senior Group Product Manager at
3 SDG&E. My business address is 4949 Greencraig Lane, San Diego, California, 92123. In my
4 current role, I lead SDG&E's Customer Field and Emergency Management Information
5 Technology organizations. These teams are responsible for delivering innovative, people-
6 focused, secure, and resilient technology solutions that support key areas including the AMI
7 Program, Legacy Smart Meter Activities, Clean Transportation, and Emergency Management. I
8 was appointed to my current role in November 2021. Since joining SDG&E in 2003, I have held
9 a series of positions of increasing responsibility across Information Technology and Customer
10 Services. Prior to joining SDG&E, I held positions at Sierra Systems Consulting Group, GS
11 Lyon Consulting, and Andersen Consulting.

12 I have a Bachelor of Science in Business Administration Degree (Finance & Banking), a
13 Bachelor of Science in Business Administration Degree (Economics), and a Bachelor of Science
14 in Accountancy Degree from the University of Missouri – Columbia in 1992.

15 I have previously testified before the Commission.

1 **IX. WITNESS QUALIFICATIONS FOR DANIELLE N. DE CLERCQ**

2 My name is Danielle De Clercq. I am employed by San Diego Gas & Electric Company
3 (SDG&E) as the Customer Experience Manager. My business address is 8326 Century Park Ct.,
4 San Diego, California, 92123. In my current role, I lead the Customer Experience team,
5 overseeing the development of seamless, transparent, and customer-centric interactions while
6 establishing governance frameworks and performance metrics that drive measurable and
7 sustainable improvements for strategic customer initiatives. I assumed my current position in
8 January 2025. I have been employed by SDG&E since 2019 and have held customer-engagement
9 focused positions of increasing responsibility in areas related to Community Outreach and
10 Engagement, Customer Strategy and Customer Experience.

11 I graduated from California State University, San Marcos, with Bachelor of Arts degree
12 in Liberal Studies.

13 I have not previously testified before the Commission.

APPENDIX A

Customer Privacy Framework

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Customer Privacy Framework

The AMI Program introduces enhanced electric capabilities, for data collection, communication, and energy usage analytics. While these capabilities promise greater efficiency, system reliability, and transparency, they also raise important considerations for customer privacy. SDG&E fully recognizes that security and privacy are directly connected to customers' personal information, behavioral privacy, and communications. As such, continuing to protect customer information remains a foundational element of the AMI Program.

SDG&E's Customer Privacy Framework is designed to protect customer privacy, comply with complex privacy laws and regulations, and reduce privacy risk. Moreover, the privacy program works to minimize the collection of unneeded customer information and disclose only necessary customer information with authorized parties. SDG&E's OCP also works alongside Cybersecurity to ensure appropriate security controls protect customer information through the information's lifecycle. Overall, the privacy program maintains compliance with applicable privacy laws and regulations, and manages enterprise customer privacy risk, working with an officer-led steering committee that oversees its practices. SDG&E's privacy program is based on industry-standard frameworks, including the Generally Accepted Privacy Principles (GAPP) and Privacy by Design (PbD). It uses a risk-based approach to reviewing privacy practices, controls and resulting potential risks for programs such as the AMI Program. In anticipation of the AMI Program rollout, SDG&E will continue to embed a multi-faceted approach to customer privacy that includes:

- A Privacy Impact Assessment (PIA) that evaluates the program against a robust set of privacy controls, features and compliance requirements. This process facilitates program implementation of privacy controls within acceptable risk

tolerances and cybersecurity review of processes and technologies that interact with customer information are satisfactory.

- A cybersecurity risk assessment that evaluates the AMI Program against a robust set of industry-standard security requirements, including the National Institute of Standards and Technology's (NIST) 800-53 security requirements.
- Robust safeguards to prevent accidental misuse, loss, or exposure of customer information.
- Annual customer privacy training for SDG&E employees and contractors to validate their awareness of their obligations to safeguard customer information.

These safeguards are embedded into the AMI Program architecture from the development phase and included in vendor contracting requirements.

Similarly, the OCP plays a central role in helping SDG&E meet legal and regulatory obligations while protecting customer data. The OCP enables customer privacy rights and supports SDG&E's personnel in complying with the California Consumer Privacy Act of 2018 (CCPA) and its amendments under the California Privacy Rights Act of 2020 (CPRA). Smart meter data handling is further governed by Decision (D.) 11-07-056 and D.12-08-045 (referred to as the "Smart Grid Privacy Rules" and described in SDGE's Rule 33), which outlines requirements for the privacy and security of customer energy usage data. SDG&E routinely evaluates that its practices fully align with these requirements. This regulation also mandates that SDG&E's privacy and cybersecurity programs be regularly audited by an independent third party.

In accordance with D.14-05-016 (the "Energy Data Access Rules"), SDG&E also manages requests from eligible third parties to access customer energy usage data. Stringent

documentation and compliance requirements, including identity verification, non-disclosure agreements or terms of service, and cybersecurity assessments, if relevant, are enforced to ensure customer usage data is protected. SDG&E does not disclose customer data to third parties without the customer's consent, or as required by law, or as ordered by the CPUC. SDG&E does not sell customer information.

Through its Privacy Policies, Privacy Notice and broader enterprise policies, SDG&E affirms its commitment to safeguarding personal information and protecting customer trust. The AMI Program operationalizes this commitment by embedding privacy considerations throughout the system lifecycle: from data collection and processing to customer-facing interfaces. The Program's systems will support consumer rights, including the ability to know, access, limit, correct, and delete personal information, in full compliance with state law and regulation. Finally, it is important to note that SDG&E's privacy strategy and cybersecurity integration are mutually reinforcing. The AMI Program will enable advanced monitoring to detect anomalies, breaches, or unauthorized access, strengthening SDG&E's cybersecurity strategy. All design decisions are made with the objective of protecting both the utility's infrastructure and the rights of its customers.

In sum, the AMI Program reflects SDG&E's proactive and accountable approach to managing sensitive customer information, consistent with the Commission's directives and California privacy law. SDG&E's policies, governance structures, and enterprise-wide frameworks work together to ensure transparency, responsible stewardship, and continued customer trust as this critical infrastructure is modernized.