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PREPARED SUPPLEMENTAL TESTIMONY OF
KEVIN C. GERAGHTY
(WILDFIRE MITIGATION AND VEGETATION MANAGEMENT STRATEGY)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



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SUMMARY

	2023 ¹	2024	2025	2026	2027	Total
Original Covered Conductor	100 mi.	100 mi.	100 mi.	100 mi.	100 mi.	500 mi.
Revised Covered Conductor	60 mi.	60 mi.	40 mi.	40 mi.	40 mi.	240 mi.
Original Undergrounding	125 mi.	150 mi.	150 mi.	150 mi.	150 mi.	725 mi.
Revised Undergrounding	80 mi.	125 mi.	150 mi.	160 mi.	170 mi.	685 mi.

Accompanying this testimony is the second revised testimony of Jonathan Woldemariam, who sponsors wildfire mitigation and vegetation management costs to reflect the revised approach to grid hardening initiatives discussed herein. In addition to the capital grid hardening changes addressed in my testimony, Mr. Woldemariam’s testimony also includes O&M-related changes for these grid hardening programs.

II. SDG&E’S WILDFIRE SAFETY CULTURE

A. The Evolution of Wildfire Mitigation at SDG&E

Providing safe and reliable electric and gas service to our customers is SDG&E’s top priority, and virtually no activity implicates the safety of our employees, customers, and service territory more than wildfire prevention and mitigation. In the aftermath of the catastrophic October 2007 wildfires in SDG&E’s service territory, SDG&E dedicated itself to revamping and enhancing its wildfire prevention and mitigation measures with the renewed goals of reducing, to the fullest extent possible, (1) the likelihood of an ignition related to electrical equipment, and (2) the chance of an ignition turning into a catastrophic wildfire. Many of SDG&E’s initiatives and hardening efforts were undertaken without any precedent or roadmap to follow. But SDG&E’s multi-disciplinary, data-focused, and company-wide approach to wildfire mitigation has continually evolved to meet the challenges of a continually changing climate and has become the recognized industry leader in this area.

SDG&E remains committed to a constant process of learning and innovation, especially as the impacts of climate change become increasingly apparent. 2020 and 2021 were two of the most significant wildfire years on record, destroying millions of acres and resulting in the tragic

¹ 2023 undergrounding forecasts are shown for information and to give context to the increasing scope of SDG&E’s grid hardening efforts. SDG&E notes that for the years 2024-2027, SDG&E forecasts completing the same number of miles of undergrounding as originally proposed.

1 destruction of property and loss of life. While some of these fires were not related to utility
2 equipment, the consequences of any wildfire reinforce the continued importance of increased
3 efforts to mitigate the risks of climate-change-driven wildfires. To date, the 2022 wildfire season
4 has fortunately resulted in fewer acres burned, but the ongoing drought and significant heat
5 events that affected California—and San Diego in particular—also stress the need that utilities
6 continue to focus on providing safe and reliable electric services in the “new normal” of climate
7 change.

8 SDG&E’s current wildfire mitigation initiatives build upon its initial foundation of
9 efforts developed after the 2007 wildfires and in response to the evolving wildfire and climate
10 risk. For instance, SDG&E developed a first of its kind in-house meteorology team and
11 comprehensive weather network to enable the Company to understand the evolving climate risk
12 and enable it to undertake advanced preparation for severe weather events. SDG&E’s dense
13 network of utility-owned weather stations provide detailed weather data across the service
14 territory and allow for the continual collection of climate-related data to better understand
15 SDG&E’s service territory and inform risk models. Using this data, SDG&E introduced the Fire
16 Potential Index (FPI), which has proven beneficial to system planning, emergency operations,
17 and aided in a targeted and safe implementation of PSPS. SDG&E also pioneered the Santa Ana
18 Wildfire Threat Index (SAWTI), which calculates the potential for large wildfire activity based
19 on the strength, extent, and duration of the wind, dryness of the air, vegetation state, and
20 greenness of the grasses. Similar to a hurricane-rating system, the SAWTI compares current
21 environmental data with historical wildfires to rate a wind event on a scale from “marginal” to
22 “extreme.”

23 As fire science continues to evolve, the increasing importance of data has led SDG&E to
24 pursue additional partnerships with academia and public-safety partners to enhance prediction
25 models and situational awareness models. SDG&E continues to share its experience, lessons
26 learned, and technological advancements in weather and wildfire mitigation with other investor-
27 owned utilities, state agencies, and stakeholders in the fire community, with the objective of
28 shared improvements in wildfire prevention across California and the west. Information from the
29 SAWTI is shared daily with fire agencies and first responders, which has led to specific
30 preparedness and operational decisions based on the likelihood of a catastrophic wildfire fueled
31 by Santa Ana winds.

1 Effective wildfire mitigation includes a safe and hardened electrical grid designed to
2 withstand modern and changing climate risks. SDG&E began its grid hardening efforts after the
3 2007 fires with design standards developed using meteorological inputs that consider the
4 localized wind conditions for grid hardening. After the tragic fires of 2017 and 2018, the
5 California Legislature recognized the necessity of additional hardening efforts with the passage
6 of Assembly Bill (AB) 1054, to address the “immediate threat” that catastrophic wildfires posed
7 to communities and properties.² SDG&E has already hardened over 900 miles of distribution
8 lines using a combination of traditional bare hardening and, more recently, covered conductor
9 and undergrounding. But consistent with both legislative directive as well as its annual Wildfire
10 Mitigation Plans, SDG&E intends to continue its investment “in hardening of the state’s
11 electrical infrastructure and vegetation management to reduce the risk of catastrophic wildfire.”³

12 While SDG&E has diligently employed various wildfire mitigation initiatives to date,
13 there is more work left to do. As of September 2022 only 26% of the overhead electric
14 distribution infrastructure in the HFTD has undergone grid hardening and new technological
15 advancements and enhancements to risk assessment require ongoing evaluation to identify an
16 optimal mitigation strategy that provides long term risk reduction and value to customers.
17 Moreover, consistent with guidance and feedback from regulators, stakeholders, and in the
18 interests of public safety, SDG&E’s risk models and mitigations under consideration must take
19 new considerations into account, including the rapid onset of climate change and the need to
20 reduce the use of PSPS. With an eye toward reduction of both wildfire risk as well the need to
21 maintain reliable service, SDG&E continues to transition its hardening initiatives toward a
22 strategically designed combination of covered conductor and undergrounding.

23 **B. SDG&E’s Risk Informed Framework for Decision Making**

24 With an understanding that achieving wildfire risk reduction would require a sustained
25 effort, SDG&E developed risk modeling approaches to inform and prioritize its grid hardening
26 strategies. The first iteration of SDG&E’s risk modeling was the Wildfire Risk Reduction Model
27 (WRRM), developed in collaboration with Technosylva. To achieve this foundational model,
28 Technosylva aggregated millions of wildfire computer simulations to build a geospatial layer of
29 wildfire vulnerability over electric distribution overhead assets. As a first of its kind effort, the

² AB 1054, §1(a).

³ *Id.* at §2(b).

1 model strategy was shared across the California utilities and led to a similar statewide approach.
2 Further refinement of fire modeling technologies, geospatial data, and computer capabilities
3 facilitated the development of WRRM-Ops, which included more granular fire weather
4 forecasting instead of a single aggregated simulation model. And using additional data and
5 modeling improvements, SDG&E’s Wildfire Next Generation System (WiNGS) model
6 incorporates aspects of WRRM and WRRM-Ops to provide an understanding of the wildfire risk
7 at a more granular level across the service territory to further aid in identifying potential
8 mitigations for specific areas.

9 Innovations and improvements in risk modeling, data availability, and computer
10 capabilities—combined with stakeholder and regulatory feedback developed through the
11 Wildfire Mitigation Plan (WMP) approval process continue to aid SDG&E in its development of
12 leading-edge models to inform wildfire hardening investments. While PSPS as a last resort may
13 remain a necessary tool in safe wildfire mitigation, it is increasingly important to weigh—and
14 reduce—the risks associated with PSPS to implement an informed wildfire mitigation hardening
15 strategy. The innovative WiNGS-Planning model is built upon the Risk Spend Efficiency (RSE)
16 methodology used in Risk Assessment and Mitigation Phase (RAMP) and General Rate Case
17 (GRC) proceedings. WiNGS-Planning evaluates both wildfire and PSPS impacts at the sub-
18 circuit/segment level to inform investment decisions by identifying the initiative that provides
19 the greatest risk reduction per dollar spent to reduce both wildfire risk and PSPS impact.
20 WiNGS-Planning was initially developed in 2020 and has been increasingly utilized to assess
21 grid hardening scope and priorities in planning for the upcoming 2023-2025WMP.

22 **C. Leveraging Community Input & Engagement**

23 As a company, SDG&E promotes a safety culture that seeks continuous improvements in
24 wildfire safety to better develop methods by which to gather input and implement ideas, which
25 includes continual feedback from employees and community members. SDG&E recognizes that
26 collaboration, the sharing of best practices, and ongoing exchanges regarding lessons learned is
27 of the utmost importance to public safety. To that end, SDG&E regularly solicits feedback from
28 the communities it serves to identify gaps in processes, communications, and partnerships.
29 SDG&E’s grid hardening and wildfire mitigation approach is consistently informed by feedback
30 received from regulators, stakeholders, and the community it serves. Wildfire safety is truly a

1 team effort and requires comprehensive engagement from the utility, public safety partners,
2 community-based organizations, and community leaders.

3 In response to the increasing wildfire risk and climate threats, to address the community
4 aspects of wildfire safety, and to better understand the impacts of wildfire mitigation on
5 community members, SDG&E pioneered additional means to engage community leaders to gain
6 insight and understanding of wildfire risks, PSPS impacts, and facilitate wildfire mitigation
7 efforts by establishing its Wildfire Safety Community Advisory Council (WSCAC). The
8 WSCAC is comprised of leaders from numerous groups in the San Diego region, including
9 public safety partners, communications and water service providers, local and tribal government
10 officials, business groups and non-profits, Access and Functional Needs (AFN) and vulnerable
11 communities, and academic organizations. These meetings provide a quarterly forum and an
12 effective means to discuss wildfire and PSPS safety issues and receive input on relevant
13 emerging community issues related to wildfire safety and preparedness. Community feedback
14 obtained through the WSCAC has enabled SDG&E to engage additional means to communicate
15 with customers and facilitated the development of new ideas to promote wildfire and PSPS
16 safety.

17 SDG&E also engages in direct community outreach by partnering with stakeholders in
18 public safety, academia, and the private sector to collaborate on safety efforts and promote
19 community outreach. SDG&E has continued its culture of engagement with communities who
20 live in the HFTD through its Wildfire Safety Fairs and community meetings. SDG&E continued
21 to prioritize these engagement efforts during the Covid-19 pandemic by facilitating virtual or
22 drive-through events. Outreach and collaboration with community safety partners led to the
23 development of a robust communications and camera network to assist fire agencies serving in
24 the HFTD areas. Further, community and public safety partner input has been integrated into
25 SDG&E's implementation of microgrids and other resiliency efforts to support reliability and
26 safety during PSPS events, and in identifying means to improve customer outage and PSPS
27 notifications, such as SDG&E's PSPS mobile app (Alerts by SDG&E) and SDG&E's newly
28 released Alexa skill.

1 **II. IMPROVEMENTS IN RISK MODELING DEMONSTRATE THE NEED FOR**
2 **STRATEGIC UNDERGROUNDING**

3 **A. SDG&E has Improved Risk Modeling and Enhanced Data to Account for**
4 **Climate Change, Public Safety Power Shutoffs, and Lifecycle Costs**

5 Since the inception of SDG&E’s wildfire mitigation program, a consistent focus on
6 improvements in data and fire science, coupled with community and stakeholder input, has led to
7 significant evolutions in the efficiencies of SDG&E’s risk modeling as well as its wildfire
8 mitigation and grid hardening initiatives. Experience begets additional knowledge, and it is
9 incumbent upon SDG&E to leverage that knowledge to target the optimal long-term risk
10 mitigation strategies for the highest risk areas. This need is increasingly evident as the
11 immediacy of climate change becomes more apparent with each passing year.

12 SDG&E’s initial risk models assisted in the development of grid hardening strategies
13 aimed at reducing the risk of ignition and catastrophic wildfire. But those models did not account
14 for PSPS risk, weather conditions, and wind speed. Nor did they address the potential for climate
15 change and the increasingly evident occasions of extreme weather events, such as severe drought
16 or high-heat systems. While California increasingly turns toward electrification to meet its
17 climate goals, it will be increasingly necessary to ensure and promote system reliability during
18 extreme weather and risk events. While PSPS does not pose the same health, safety, and
19 environmental risks as a catastrophic wildfire, the impacts of a PSPS event on communities,
20 especially vulnerable communities, can and should be mitigated to the greatest extent possible.
21 Covered conductor installation and bare hardening have limitations when wind speeds meet or
22 exceed high-percentile thresholds in much of SDG&E’s service territory, making PSPS more
23 likely in areas hardened above ground.

24 As SDG&E has continued to improve its data and modeling technologies with the
25 development of WiNGS-Planning, SDG&E’s models indicate that a shift toward increased
26 implementation of strategic undergrounding is the optimal means to achieve the greatest risk
27 reduction for both ignition and PSPS risks. Given the increasing risks posed by climate change,
28 SDG&E is positioned to develop the grid of the future using the ongoing and increased
29 implementation of strategic undergrounding. Through this initiative and SDG&E’s suite of
30 wildfire mitigation efforts described in Mr. Woldemariam’s testimony (Ex. SDG&E-13) SDG&E
31 will be best poised to reduce the threat of catastrophic wildfire and promote customer safety and
32 resiliency for years to come.

1 Increased implementation of undergrounding in identified high-risk areas both
2 significantly reduces (and nearly eliminates) the risk of ignition resulting from electrical
3 equipment and is the only means of assuring a reduction in the need for PSPS events in the
4 future. Moreover, as detailed below, as SDG&E continues to deploy undergrounding on a larger
5 scale, it has achieved additional cost reductions and efficiencies that further demonstrate the
6 benefits of undergrounding, particularly given its long-term benefits and overall risk reduction.
7 As further described in Mr. Woldemariam’s testimony, SDG&E’s WiNGS-Planning model
8 continues to identify opportunities where undergrounding fits within SDG&E’s existing models,
9 as approved by the Commission in existing RAMP and Safety Model Assessment Proceeding (S-
10 MAP) proceedings. As SDG&E continues to experience and promote efficiencies in
11 undergrounding efforts, the benefits of undergrounding as a long-term investment for customers
12 increase with respect to reduced wildfire risks, less need for PSPS events, and increased
13 reliability.

14 **B. Experience with Strategic Undergrounding has Facilitated Improvements in**
15 **Undergrounding Practices and Forecasts**

16 The benefits of strategic undergrounding—implemented on a targeted and risk-driven
17 basis—are further amplified as SDG&E continues to explore and realize cost-efficiencies from
18 construction improvements, streamlined processes, and improved modeling. Specifically,
19 SDG&E has been able to reduce the costs associated with undergrounding significantly lower
20 than originally anticipated through the use of shallower trench depth. Since submitting its
21 original testimony, SDG&E has reduced its cost-per-mile estimates for undergrounding for 2024
22 and beyond by 12%. In addition, SDG&E’s WiNGS-Planning model can now account for certain
23 lifecycle cost savings associated with undergrounded infrastructure—namely the reduction or
24 avoidance of PSPS events and estimated savings from reduced overhead maintenance costs and
25 vegetation management efforts. In identifying these improvements in cost and efficiency,
26 SDG&E’s risk mitigation models shifted toward an approach involving increased
27 undergrounding in areas that faced the risk of both catastrophic wildfire and PSPS.

28 Other increased benefits of undergrounded infrastructure include estimated lifecycle
29 savings with respect to vegetation management efforts in the HFTD. Since the inception of the
30 WMP’s, SDG&E’s vegetation management program has established itself through its
31 comprehensive, thoughtful, and risk-based approach to mitigating wildfire risk by reducing the
32 instances of vegetation-line contacts in the HFTD. These efforts include enhanced inspections of

1 hazard trees, audits of trees within the HFTD, and the use of remote technology to enhance
2 vegetation and auditing activities. Additionally, SDG&E's enhanced vegetation management
3 program poses continuous costs as SDG&E pursues and maintains larger clearances for high-risk
4 trees and seeks to maintain a reasonable distance between electrical infrastructure and potentially
5 threatening vegetation. When electrical infrastructure is underground, many, if not all, of these
6 costs may be avoided. And, as discussed below, while SDG&E's models include some
7 assumptions regarding vegetation management costs, reduced vegetation management efforts
8 also result in societal and environmental benefits as well.

9 SDG&E continues to enhance its data collection and analysis to better understand some
10 of these benefits. For instance, SDG&E has only begun to explore and identify additional risk
11 reduction benefits such as the reduction in lifecycle costs associated with undergrounding high-
12 risk lines. For example, when distribution infrastructure is placed underground, there is no
13 associated need for annual (or in some cases bi-annual) inspections of equipment and vegetation,
14 reducing the revenue required to maintain and operate overhead lines in a safe and reliable
15 manner. This is, of course, particularly true in the HFTD. To date, SDG&E has relied on
16 extensive equipment and infrastructure inspections using both human eyes and drone technology,
17 to inspect the condition of distribution equipment. Both regulatory requirements and common-
18 sense fire safety require SDG&E to inspect and maintain these lines on a determined schedule.
19 Undergrounded lines, however, do not require such extensive maintenance and inspections
20 (which are often intrusive and inconvenient to property owners). Thus, while undergrounding
21 may have higher initial construction costs, both the long-term savings to customers and the long-
22 term safety and reliability of undergrounding projects make such projects a reasonable
23 investment.

24 While modeling cannot encompass all considerations SDG&E uses for decision-making,
25 the outputs of SDG&E's model provide a useful data point for purposes of mitigation selection
26 for grid hardening solutions. SDG&E's WiNGS-Planning model does not take certain benefits or
27 considerations into account, including construction feasibility, environmental constraints or
28 permitting limitations. Further, the model itself cannot account for other, uncontested societal
29 benefits associated with underground infrastructure, including but not limited to, eliminating the
30 inconvenience of maintenance and operating efforts, reducing PSPS impacts, and reducing social
31 and environmental impacts associated with above-ground infrastructure.

1 **C. SDG&E Must Consider Additional Societal Benefits and the Need to Prepare**
2 **the Electric Grid of the Future**

3 In addition to the long-term cost savings associated with undergrounded infrastructure, it
4 is important to remember the less quantifiable, but equally tangible, societal benefits of
5 undergrounding higher-risk electrical infrastructure as we face the uncertainty of climate change.
6 Without a doubt, the most palpable and immediate of these is the reduced risk of PSPS events
7 and the reduction of reliability impacts on customers downstream from hardened lines. While
8 SDG&E and stakeholders have attempted to quantify the impacts of PSPS for purposes of RSE
9 and risk reduction calculation as well as certain lifecycle cost savings, as SDG&E has learned
10 from community input, the general societal understanding of increased reliability, reduced need
11 for additional (and costly) external generation, and community good undeniably benefit
12 customers. Further, undergrounding increases overall system reliability and reduces instances of
13 unplanned outages caused by external events such as vegetation or animal/line contacts, weather,
14 or vehicular incidents. As California continues to pursue additional electrification to meet
15 climate goals, the need for reliable electrical service will only increase as customers will require
16 electricity for even more important services than they do today, such as cooking, heating, and
17 charging vehicles. California’s transition to a more electric future will only serve to increase the
18 benefits of strategic undergrounding.

19 Undergrounding infrastructure also assists SDG&E in promoting the general public
20 safety of its communities. For instance, when lines are no longer above ground, they do not pose
21 a threat to ingress and egress for customers trying to evacuate due to fire or other disaster. And,
22 in the event of a wildfire—regardless of the ignition cause—reconstruction and restoration of
23 electric service in affected areas is typically faster when lines are underground. And because
24 some of the planned undergrounding initiatives also impact some of SDG&E’s most vulnerable
25 communities, strategic undergrounding serves the double benefit of promoting reliable service
26 for numerous AFN and vulnerable areas.

27 Strategic undergrounding also serves currently unmeasured and important environmental
28 and community benefits as well. Areas now subject to vegetation management due to their
29 proximity to electrical infrastructure will be allowed to reforest, promoting both reduced
30 Greenhouse Gas (GHG) emissions and additional animal habitats. To the extent that
31 infrastructure must remain in the area to accommodate non-electrical lines (such as telecom and
32 cable) there will be significantly less need for enhanced clearances or inconvenient vegetation

1 management efforts. Further, areas and communities currently subject to enhanced infrastructure
2 or vegetation inspections will be spared these inconvenient intrusions—including the increased
3 use of drone and other remote inspection techniques. And of course, as SDG&E has learned from
4 community engagement, there is a positive societal and customer aesthetic benefit to placing
5 lines underground along existing roads, which reduces visual intrusions and enhances sightlines
6 and views.

7 While these societal and intangible benefits are not incorporated into SDG&E’s existing
8 risk modeling or RSE calculations, it remains important to consider these long-term
9 enhancements to the community when reviewing wildfire mitigation projects.

10 **IV. SDG&E PROPOSES A REASONABLE AND THOUGHTFUL APPROACH TO**
11 **REDUCE RISK WHILE ACHIEVING AN INCREASED UNDERGROUNDING**
12 **SCALE**

13 **A. An Onramp to Risk Reduction Through Undergrounding**

14 The path to risk reduction in the HFTD through additional undergrounding efforts will
15 require time, community partnerships and engagement, and investment. Lessons learned from
16 existing strategic undergrounding efforts will be incorporated into future plans and initiative
17 targets and will allow SDG&E to scale up to meet the challenges of a larger undergrounding
18 program. For the purpose of this GRC cycle, SDG&E proposes an onramp with increased
19 underground mileage from year to year. This scaled approach will allow SDG&E to continually
20 realize and implement new lessons learned, efficiencies, and cost savings where applicable.
21 Notably, this scaled approach also reduces SDG&E’s current revenue requirement request to
22 allow SDG&E to realize new cost efficiencies, evaluate and plan for contractor and construction
23 availability, and achieve economies of scale.

24 Additionally, SDG&E is considering using new business and construction approaches to
25 ensure that it can meet its proposed undergrounding targets. Statewide labor shortages, supply
26 chain constraints, and permitting issues are just a few of the potential causes of work delays.

27 While some of these potential constraints apply to any construction—including covered
28 conductor installation—SDG&E has worked diligently to date to facilitate and streamline
29 permitting issues where possible and plan for supply chain issues. With careful planning,
30 SDG&E continues to meet or come within 10 percent of its WMP hardening targets on an annual
31 basis. But SDG&E is prepared to explore and consider new approaches to facilitate the growth of
32 strategic undergrounding to expeditiously reduce the risk of PSPS and wildfire in its service

1 territory. These new approaches may include the use of a dedicated Project Management Office
2 (PMO), additional contractors and labor, and new engineering approaches. These new, long-term
3 business approaches will also be supported by an onramp approach to undergrounding.

4 **B. The Future Requires Flexibility to Promote Ongoing Innovation**

5 The story of wildfire mitigation in California has, to date, been one of ongoing
6 innovation, increasing data and technology, and enhancements to risk assessment. SDG&E will
7 continue to build on over a decade of leadership in wildfire mitigation, as it constantly pursues
8 the optimal approach to risk reduction as a value proposition. As climate change continues to
9 pose a threat to infrastructure and communities, there is the possibility that even more of the
10 electrical system is safest and results in the greatest long-term benefit when placed underground.
11 SDG&E will continue to look to its internal resources, community partners, stakeholders, and
12 academic partnerships to continually assess climate modeling to determine the best infrastructure
13 to serve customers safely and reliably. This approach is consistent with the feedback SDG&E
14 has received during the WMP process from Energy Safety, as well as guidance and statements
15 from the California Wildfire Safety Advisory Board and the California Public Utilities
16 Commission.⁴ SDG&E strives to be at the forefront of climate and sustainability policy and the
17 best way to serve its customers and will continue to work with these stakeholders to reduce risk
18 and construct the grid of the future.

19 The climate transition is happening faster each year, and—as with the ongoing drought
20 and heat events—the threats associated with climate change continue to evolve. Thus, it is not
21 beneficial to limit SDG&E to a singular and constrained approach during its four-year GRC
22 cycle. In the four years since the tragic 2017-2018 fires in northern California, wildfire
23 mitigation and climate change adaptation has evolved statewide in rapid ways that virtually no
24 one could predict. It is imperative that SDG&E and its stakeholders preserve a level of flexibility
25 to promote innovation, optimize risk reduction, and maintain value for customers. For these

⁴ See, e.g., *Draft 2023-2025 Wildfire Mitigation Plan Guidelines*, Office of Energy Infrastructure Safety (September 19, 2022) at 30 (“It is critical for the electrical corporation to understand general climate conditions and how climate change impacts the frequency and intensity of extreme weather events and the vegetation that fuels fires”); *Recommendations of the Wildfire Safety Advisory Board on Safety Culture Assessment*, California Wildfire Safety Advisory Board (August 31, 2022) at 9-10 (“The utilities should be prepared far in advance by planning a path for success” to account for climate change. “As average and peak temperatures increase over time, with potentially more frequent prolonged droughts, wildfires could increase in frequency and intensity.”)

1 reasons, the Commission should approve a two-way balancing account for SDG&E’s WMP
2 initiatives as proposed by Mr. Woldemariam, and in particular grid hardening projects.⁵ Two-
3 way balancing treatment will allow SDG&E to:

- 4 • Address new risks and incorporate additional data into models, so that hardening
5 work may be aimed where it reduces the highest level of risk;
- 6 • Realize additional cost savings as its strategic undergrounding program discovers
7 additional cost efficiencies (such as the cost reduction associated with SDG&E’s
8 implementation of shallower trench depths);
- 9 • Increase or decrease hardening where appropriate to address risk; and
- 10 • Pass any unused funds back to ratepayers if savings are realized or work is not
11 completed.

12 It is through additional flexibility, innovation, and creativity that SDG&E will achieve its
13 goal of continuing to lead the utility industry in wildfire mitigation, risk assessment, and safety
14 and fulfill its mission to “do the right thing.”

15 **V. CONCLUSION**

16 SDG&E’s shift in this GRC cycle to an additional focus on strategic undergrounding of
17 electric infrastructure in the HFTD is supported by its risk modeling and is a prudent approach to
18 continue to manage the risk of wildfire, PSPS and reliability impacts, and climate threats.
19 SDG&E has been able to reduce the costs of strategic undergrounding over time and estimates
20 increased risk reduction and lifecycle benefits associated with undergrounding, including
21 reduced inspection and vegetation management costs. SDG&E is committed to completing the
22 proposed strategic undergrounding miles in the HFTD in a prudent and reasonable manner for
23 the benefit of the community using skilled and qualified workers and community partnerships.
24 Continuous innovation in the face of emerging wildfire and climate-related threats requires
25 flexibility in a quickly evolving space, which supports two-way balancing treatment of
26 SDG&E’s wildfire mitigation program.

⁵ Two-way balancing for wildfire mitigation projects, including comprehensive grid hardening efforts, is consistent with both Commission precedent for both PG&E and SCE, as well as guidance from the recent passage of Senate Bill (SB) 884. While SB 884 is directed at a separate, long-term grid hardening plan submitted to the Commission, the Legislature specifically provided that the Commission “shall consider continuing an existing Commission-approved *balancing* account ratemaking mechanism for system hardening” for recovery of costs determined to be just and reasonable.

1 Accordingly, SDG&E requests that the Commission approve SDG&E's revised approach
2 for grid hardening, specifically associated with strategic undergrounding and covered conductor,
3 and its request for two-way balancing of wildfire mitigation costs.

4 This concludes my prepared supplemental testimony.

1 **VI. WITNESS QUALIFICATIONS**

2 My name is Kevin C. Geraghty. My business address is 8330 Century Park Court, San
3 Diego, California, 92123. I am employed by SDG&E as the Chief Operating Officer and Chief
4 Safety Officer. I am responsible for the oversight and execution of the Company's electric and
5 gas operations, safety policy and culture, customer services, and wildfire and climate science.

6 I joined SDG&E in 2000 as the Senior Vice President, Electric Operations and Chief
7 Safety Officer. I have nearly 35 years of experience in the electric utility industry, in positions of
8 increasing management and responsibility. Prior to joining SDG&E, I worked at NV Energy in
9 Nevada, where my most recent position was Chief Operating Officer and Senior Vice President,
10 Operations, and Allegheny Energy, Inc.

11 I have a Bachelor of Science degree in Electrical and Electronics Engineering from the
12 University of Pittsburgh.

13 I have not previously testified before this Commission.

APPENDIX A – Glossary of Terms

ACRONYM	DEFINITION
AFN	Access and Functional Needs
FPI	Fire Potential Index
GHG	Greenhouse Gas
HFTD	High Fire Threat District
O&M	Operations & Maintenance
PMO	Project Management Office
PSPS	Public Safety Power Shutoff
RAMP	Risk Assessment Mitigation Phase
RSE	Risk Spend Efficiency
SAWTI	Santa Ana Wildfire Thread Index
SDG&E	San Diego Gas & Electric
S-MAP	Safety Model Assessment Phase
TY	Test Year
WiNGS	Wildfire Next Generation System
WMP	Wildfire Mitigation Plan
WRRM	Wildfire Risk Reduction Model
WSCAC	Wildfire Safety Community Advisory Council