Application: 18-12-
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Exhibit No.: (PG&E-1)
Date: December 13, 2018
Witness(es): Various

PACIFIC GAS AND ELECTRIC COMPANY

2020 GENERAL RATE CASE

PREPARED TESTIMONY

EXHIBIT (PG&E-1)

SUMMARY OF PG&E'S 2020 GENERAL RATE CASE

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EXHIBIT (PG&E-1)
SUMMARY OF PG&E'S 2020 GENERAL RATE CASE

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A. Introduction

Pacific Gas and Electric Company's (PG&E or the Company) 2020 General Rate Case (GRC) arrives at a time of significant change and uncertainty. The most destructive wildfires in state history occurred in 2017 and 2018, resulting in unparalleled loss of life and property. Our hearts are with all the communities and individuals affected by these wildfires. Factors contributing to what the Governor has called the "new abnormal,"[1] include high temperatures, extremely low humidity, strong winds, and an estimated 129 million trees that died due to the drought and bark beetle infestations in California. These are new realities that must be understood and addressed. While California's investor-owned utilities (IOUs) and publicly-owned utilities play a critical role in mitigating the risk of wildfires, wildfire risk must be managed and coordinated across multiple stakeholders on both a local and statewide basis.

In this proceeding, PG&E proposes work that reflects new approaches to the design, construction, and operations and maintenance (O&M) of our electric distribution system to address these increased wildfire risks, particularly in high fire-risk locations.[2] PG&E's proposals are based on an extensive analysis of data regarding the causes of ignition of fires in California that involve utility infrastructure.

PG&E's focus on wildfire mitigation in this GRC implements California's urgent call to address the growing and widespread risk of wildfires. This increasing risk motivated the California Legislature to enact Senate Bill (SB) 901. The Senate Floor Analysis of SB 901 explained that some of the key aspects of the legislation were:

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[1] Los Angeles Times (Nov. 11, 2018) *Gov. Brown: Mega-fires 'the new abnormal' for California*, available at: <https://www.latimes.com/local/california/la-me-california-fires-woolsey-hill-camp-gov-brown-mega-fires-the-new-1541985742-htmlstory.html> (as of Dec. 3, 2018).

[2] Certain of these approaches discussed in PG&E's testimony constitute additional precautionary measures intended to further reduce wildfire threats.

> …measures to help reduce the risk of wildfires and increase mitigation efforts related to electric utility operations – both publicly owned (POUs) and investor-owned (IOUs).[3]

PG&E's wildfire mitigation proposals will be reviewed by the California Public Utilities Commission (CPUC or Commission) next year when PG&E files our Wildfire Mitigation Plan as required by SB 901.

In this application, PG&E requests that the Commission increase gas and electric distribution and generation revenue requirements by a total of $1,058 million, effective January 1, 2020, a 12.4 percent increase over PG&E's 2019 authorized revenue requirement. This will increase a typical residential electric and gas customer bill by 6.4 percent per month. We understand that this proposed increase is significant, particularly for customers who already struggle to pay their bills. Nonetheless, the additional capital we plan to invest in our infrastructure to harden our system against wildfire is imperative and unavoidable.

This GRC continues PG&E's emphasis on safety and spending that is maximized to reduce operational risks at a reasonable cost over the long term. PG&E's testimony discusses our improvements in the use of risk-informed spending for budget-planning purposes and the advancements to our risk-management process. We also address input received from the Safety and Enforcement Division and describe ongoing steps to improve our risk-mitigation efforts. Our analysis of risk, and the proposals to mitigate and reduce risks across all lines of business (LOB), continue to mature. For the first time, PG&E is including the use of probabilistic analysis and assessment of potential mitigations in the GRC. While PG&E's work in this area continues, the progress in maturing our risk management process over the last several years has been meaningful and steady.[4]

B. PG&E's Mission, Vision, and Culture

In the face of these serious challenges, the importance of PG&E's commitment to safety is paramount. This commitment is embedded in the

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3 Senate Floor Analyses, issued August 31, 2018, at p. 13, available at: <http://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=201720180SB901> (accessed October 2, 2018) ("Senate Floor Analysis").

4 See Exhibit (PG&E-2), Chapter 3.

Company's Mission, Vision, and Culture. Progress on several of the key themes in PG&E's Mission, Vision, and Culture statements, including safety, reliability, clean and sustainable energy, affordability, customer service, innovation, and diversity has been evident over the last GRC period and will continue.

1. PG&E's Vision

PG&E envisions a future of safe, reliable, and sustainable energy. This encompasses not only our pledge to continue our national leadership on clean energy and environmental sustainability, but also a fundamental commitment to safety and affordable rates for our customers. Our vision confirms our dedication to meeting the challenge of climate change by transforming our energy supply to a low carbon future—a critical priority for our customers. PG&E has a unique role in integrating the various solutions that California and our customers are pursuing to fight climate change, including renewables, electric vehicles, energy efficiency, and more.

2. PG&E's Mission

PG&E's mission is at the heart of everything we do. We are here to provide safe, reliable, and affordable clean energy. We are also planning to build the infrastructure needed to meet new challenges, including accommodating more renewable power and integrating Distributed Energy Resources (DER), electric vehicles, energy storage, and other technologies.

a. Safety

Safety is the foundation of—and our highest priority—in serving customers every day. PG&E employees understand their actions must reflect that priority. PG&E's primary focus in this GRC is to continue to improve the safety of our electric and gas operations.

As PG&E increases work to improve the safety of our electric infrastructure and conduct increasing amounts of tree trimming, the safety of our employees and contractors is paramount. The cornerstone of PG&E's employee and contractor safety program is the One PG&E Occupational Health and Safety Plan. The plan encompasses employee safety and health, contractor safety, motor vehicle safety, and development of the safety management system. The plan seeks to improve occupational safety, health performance, and culture.

For the past few years, the Company has implemented new safety committees, redefined the Contractor Safety Program, and instituted enterprise-wide Corrective Action, Reach Every Employee, and Speak-Up programs. These activities encourage and enable our employees and contractors to raise concerns to improve safety and performance.[5]

PG&E also continues to increase the safety of our gas operations. In this GRC, we propose to continue our core gas distribution programs such as main pipe and service replacement; leak survey and repair; corrosion inspection and repair; and routine corrective and preventative maintenance.

Finally, as discussed in Exhibit (PG&E-2), Chapter 1, PG&E agreed with all 67 recommendations contained in the report issued April 21, 2017, by the NorthStar Consulting Group as part of the Commission's Safety Culture Order Instituting Investigation (OII)[6] and has already implemented most of the recommendations. PG&E is committed to continuous efforts to strengthen and improve its safety culture, including further participation in the Safety Culture OII proceeding.

b. Reliability

PG&E's electric system reliability metrics have improved significantly since 2010, showing reductions in the number, duration, and frequency of outages.[7] These improvements are due to increased investments in reliability initiatives, such as Fault Location, Isolation, and Service Restoration program technology. This technology has helped PG&E avoid approximately 550,000 sustained outages per year and more than 53 million customer minutes of outage per year, improving convenience to our customers and avoiding public safety incidents that may arise from outages.[8] In this GRC period, PG&E's goal is to

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5 See Exhibit (PG&E-7), Chapter 1.

6 See Investigation 15-08-019, Report appended to the Assigned Commissioner's Scoping Memo and Ruling dated May 8, 2017 (NorthStar Report).

7 See Exhibit (PG&E-4), Chapter 1.

8 See Exhibit (PG&E-4), Chapter 1. Based on 3-year (2015-2017) average results. Savings are based on unplanned outages and exclude benefits captured during major event days and other outage events typically excluded for metric reporting.

maintain second-quartile reliability, as measured by the frequency and duration of outages.

c. Affordability

We understand that as we operate our business, it is essential to reduce costs to keep customers' rates as affordable as possible. PG&E appreciates that 40 percent of the households in our service area are low income. While we must invest in our infrastructure for safety and reliability, we also must work to lower our costs. PG&E's forecast of costs to operate our business in this GRC—apart from our new Community Wildfire Safety Program (CWSP) costs and increases in insurance coverage premiums—accounts for only 2.4 percent of the proposed increase in revenue requirement.

Our efforts to reduce costs throughout the Company are conducted through PG&E's Customer Affordability Roadmap (CAR) initiative. Vice President (VP) of Finance and Planning, Jamie Martin, (Exhibit (PG&E-2), Chapter 2), discusses PG&E's CAR initiative. Further, in each exhibit, the LOB explains its own efficiency initiatives to reduce costs. These efficiencies combine to reduce PG&E's GRC forecast by approximately $450 million in total capital from 2020-2022.

d. Clean Energy

PG&E is deeply committed to a sustainable energy future. California and PG&E are recognized as national leaders in clean energy and will continue setting the pace. PG&E has one of the cleanest energy portfolios in the nation. In 2017, we delivered 33 percent of our energy from renewable resources, reaching California's 2020 renewable energy goals three years early. We are also well positioned to meet SB 100's newly-enacted goal of a 60 percent Renewables Portfolio Standard by 2030.

PG&E enables customers to choose to generate their own renewable energy and connect to the grid. PG&E has connected more than 370,000 solar customers to the electric grid, or about 20 percent of private rooftop solar in the entire country. PG&E connects about 5,000 new solar customers to the grid every month. PG&E's Integrated

Grid Platform (IGP) proposal in this GRC will help continue to integrate this solar generation.[9]

Energy storage has been a part of PG&E's power mix for decades, starting with the Helms Hydroelectric Facility, which began operations in 1984, and continuing with the deployment of new battery energy storage systems. PG&E's continued investment in energy storage will further California's renewable energy goals and is another way PG&E can help integrate intermittent renewable resources into the distribution grid.

3. PG&E's Culture

a. Safety

Safety is not only key to PG&E's mission, but it is also a cornerstone of PG&E's culture. PG&E's culture prioritizes safety in everything we do each day. In Exhibit (PG&E-2), Chapter 1, Senior Director Todd Hohn discusses PG&E's efforts to increase the safety of our employees, contractors, and the public, including development and implementation of the One PG&E Occupational Health and Safety Plan.

b. Accountability, Integrity, Transparency, and Humility

PG&E's Compliance and Ethics (C&E) Department is responsible for enhancing and promoting an effective C&E Program to nurture an organizational culture that encourages integrity, ethical conduct, and an unwavering commitment to compliance with applicable laws and regulations. PG&E communicates these values throughout the organization through training and feedback mechanisms to foster a culture where all employees are encouraged to do the right thing with respect to ethics and integrity, and to "speak up" to promote transparency and accountability.[10]

Another example of PG&E's cultural values in action is our response to the NorthStar report on PG&E's safety culture. As NorthStar acknowledged, PG&E provided it "unfettered access to PG&E personal and executive management meetings and processes,"

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9 See Exhibit (PG&E-4), Chapter 19 and Chapter 19, Attachment A.

10 See Exhibit (PG&E-9), Chapter 4.

including Board committee meetings, executive meetings, and internal self-assessments.[11]

c. Customer Service

Customer service remains a key focus for PG&E. In this GRC, PG&E is proposing ways to continuously and proactively improve customer service. PG&E's diverse customers increasingly express a desire for more personalized options to manage their energy use and participate in PG&E's programs, including more digital choices. PG&E proposes to build on its existing technologies to effectively improve how customers communicate with us and efficiently promote customer service.[12]

PG&E is continuing its commitment to ensure that its communications, digital platforms and tools, and facilities are accessible for customers with disabilities. PG&E and the Center for Accessible Technology continue to work collaboratively to advance that goal and jointly present a Memorandum of Understanding to that effect for adoption in this GRC.[13]

d. Change, Innovation, and Continuous Improvement

PG&E is consistently innovating to find better and more efficient ways to provide safe and reliable service for our customers.

Electric Operations' commitment to innovation is demonstrated in our Community Wildfire Safety Program, established following the October 2017 wildfires to implement additional measures to further mitigate wildfire threats. Such additional precautionary measures include plans to install approximately 1,300 weather stations in high fire-risk areas by 2022 to monitor and forecast weather conditions and better predict extreme wildfire danger. PG&E is also installing a network of nearly 600 new high-definition cameras in high fire-threat areas, which, when complete, will allow PG&E to monitor fire conditions and ignitions

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11 NorthStar Report, p. I-6 (Apr. 21, 2017).

12 See Exhibit (PG&E-6), Chapter 4.

13 See Exhibit (PG&E-6), Chapter 5, Attachment A.

over more than 90 percent of the high fire-threat circuit miles in its distribution system.[14]

PG&E's Gas Operations also continues to innovate and modernize to improve gas system safety. In August 2017, PG&E opened a state-of-the-art gas training facility, the PG&E Gas Safety Academy, in Winters, with training that focuses on, among other things, leak survey, leak pinpointing, and emergency response training. Other features include training for instrumentation and regulation equipment, hands-on training in excavation, shoring, and other construction-related activities, and an excavator simulation room.[15]

We also opened a new Center for Gas Safety and Innovation in Dublin in 2017. The new facility includes work and lab space for Gas Operations including advanced tools, testing capabilities, and lab resources, to develop new methods and technologies to enhance gas safety.[16] Here, PG&E tests and evaluates new products and processes, such as measurement and control devices to enhance gas system safety. The facility is also used to conduct Non-Destructive Examination on pipelines to ensure asset integrity.

e. Diversity and Inclusion

PG&E has one of the leading supplier diversity programs in the energy industry. In 2017, PG&E spent $2.58 billion with diverse suppliers, accounting for 42.25 percent of our total procurement. PG&E's level of spending exceeded the Commission's diverse spending goal of 21.5 percent for the 12th consecutive year, while fostering economic opportunities in numerous local communities.[17]

In addition, PG&E earned 100 percent—the highest score possible—on the 2018 Disability Equality Index® for the fourth consecutive year and was named one of the "2018 Best Places to Work for Disability Inclusion" by Diversity, Inc. This index recognizes

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14 See Exhibit (PG&E-4), Chapter 2A.

15 See Exhibit (PG&E-3), Chapter 1.

16 See Exhibit (PG&E-3), Chapter 1.

17 See Exhibit (PG&E-4), Chapter 4.

the Company's efforts to prioritize the inclusion of people with disabilities.

f. Speak Up, Listen Up, and Follow Up

PG&E established its "Speak Up, Listen Up, Follow Up" Program to encourage employees and contractors to express concerns and create a safer, better Company.[18] PG&E believes that a collective commitment to raise concerns and contribute new ideas provides an opportunity to make improvements and to correct problems before they become more serious. The goal of a speak-up culture is an environment where all feel welcome to express concerns, share new ideas, or request guidance. When a potential safety violation occurs, PG&E's objective is to learn why it happened and focus on *what* failed, not *who* failed. This approach results in a safer and healthier workplace.

PG&E encourages our employees to speak up through discussions with their supervisors, through use of PG&E's C&E Helpline, or by reporting safety issues via the Corrective Action Program (CAP), among other options.[19]

g. Collaboration and Partnership

PG&E works with civic and community leaders, first responders, state leaders, and other energy companies on solutions and new approaches to California's changing climate while ensuring the ongoing delivery of safe and reliable energy to our customers.

Collaboration makes us stronger and keeps our customers safer. Our emergency response operations involve collaborations with local, state, and federal authorities including the Governor's Office of Emergency Services, United States (U.S.) Geological Survey, California Department of Forestry and Fire Protection (CAL FIRE), and others. We also have both provided and received mutual aid assistance and will continue to strengthen relationships with our mutual assistance partner utilities to improve emergency response here and in other states.

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18 See Exhibit (PG&E-8), Chapter 3; Exhibit (PG&E-2), Chapter 1.

19 See Exhibit (PG&E-9), Chapter 4.

C. Summary of PG&E's Forecast Drivers

PG&E requests a revenue requirement increase of 12.4 percent, from $8.518 to $9.576 billion for the 2020 test year, compared to 2019 adjusted authorized amounts, to safely and reliably deliver natural gas and electric service to our customers. This proposed increase translates to a bill impact of 6.4 percent, or $10.57 per month, for PG&E's typical residential electric and gas customer. In addition, PG&E requests increases of $454 million for 2021 and $486 million for 2022. PG&E is not seeking recovery of officer compensation.[20] Further details and comparisons are presented in Chapter 2 of this exhibit.

Some of the main drivers in PG&E's 2020 forecast are discussed below. A more complete summary is provided in Chapter 2 of this exhibit.

1. Community Wildfire Safety Program

Nothing is more important to PG&E than keeping our customers and communities safe. As I discussed above, recent years have been marked by extreme weather events across California. Extreme weather events driven by climate change led to unprecedented wildfires in Northern California in 2017 and 2018, including the recent Camp Fire, the most destructive wildfire in California history. The impacts of climate change and increased wildfire risk require electric utilities to take additional steps to harden their infrastructure and increase vegetation management. PG&E faces significant wildfire challenges because of the size and geography of our service area. PG&E's service territory is approximately 70,000 square miles and includes a significant amount of areas designated as Tier 2 ("elevated risk") or Tier 3 ("extreme risk") areas on the High Fire Threat District (HFTD) Map adopted by the CPUC.[21]

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[20] PG&E's request excludes compensation of executive officers consistent with the Commission's pending draft Resolution E-4963, Finding 6 (Draft issued Dec. 6, 2018). This draft resolution implements a provision in SB 901 regarding the recovery of officer compensation in rates. (See Pub. Util. Code § 706 (effective January 1, 2019)). PG&E will go beyond the requirements in this draft resolution and remove compensation of all other officers from its revenue requirement presented herein.

[21] The HFTD Map, adopted by the Commission in January 2018, designates three types of fire threat area: Tier 3 ("extreme risk"); Tier 2 ("elevated risk"); and a much smaller Tier 1/Zone 1 (made up of areas on the CAL FIRE/U.S. Forest Service High Hazard Zones map that are not subsumed within Tier 2 and Tier 3 HFTDs). See Decision 17-12-024, p. 158, Ordering Paragraph 12, and Appendix D.

Given the continued and growing threat of wildfire, PG&E is evolving and expanding its Community Wildfire Safety Program. PG&E's testimony includes proposals for electric distribution hardening and further enhancing vegetation management to reduce the risk of wildfire. These proposals are based on an analysis of CPUC Fire Incident data. PG&E proposes to bolster wildfire prevention, risk monitoring, and emergency response efforts, add new and enhanced safety measures, increase vegetation management, and harden our electric system to help further reduce wildfire risks.

In Exhibit (PG&E-4), Chapter 2A, PG&E's Vice President of Community Wildfire Safety, Sumeet Singh, provides a detailed discussion of our analysis of the wildfire risk in PG&E's service area, and the specific proposals in this proceeding intended to further mitigate this risk.

PG&E is proposing to invest approximately $5 billion between 2018 and 2022 on these and other incremental Community Wildfire Safety Program measures.[22]

2. Insurance

As explained by Janaize Markland, Director of Enterprise Risk Management, in Exhibit (PG&E-9), Chapter 3, each of the California electric IOUs is facing increased potential liability due to wildfire risk. This increase in liability is amplified by California's application of inverse condemnation whereby a utility may be held liable for wildfire costs when its equipment is involved, even if the utility operated its system properly and followed all applicable rules and regulations. This liability law, coupled with greatly increased wildfire risk, has led to fewer insurers willing to issue wildfire insurance policies to the IOUs and far higher premiums. PG&E's forecast for liability insurance is approximately 200 percent more than PG&E's 2017 renewal cost, and is equal to our 2018 insurance costs.[23] In addition, due to the uncertainty regarding the price and availability of insurance coverage, PG&E requests that the Commission approve a two-way balancing account for insurance premiums and other financial-risk transfer instruments so that

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22 See Exhibit (PG&E-4), Chapter 2A.

23 See Exhibit (PG&E-9), Chapter 3.

PG&E can fully recover its insurance costs and customers will not overpay if PG&E spends less than its forecast.

3. Gas Operations

Exhibit (PG&E-3) sets forth the scope of work and costs for the O&M of PG&E's gas distribution system, which provides natural gas to the Company's 4.3 million residential, commercial, and industrial customers. Gas Operations' 2020 expense forecast represents a $33 million or 10 percent overall increase, as compared to 2017 recorded expense. The 2020 capital expenditure forecast is $130 million, or 16 percent overall increase, as compared to 2017 recorded capital.[24] This funding will allow PG&E to continue to fulfill California's policy to "place safety of the public and gas corporation employees as the top priority."[25] These programs include main pipe replacement, reconstruction of gas pressure regulator stations, corrosion detection and mitigation, leak survey, and leak repair.[26] The forecast also includes new initiatives to improve safety and reliability such as installing measures to mitigate equipment-related and incorrect operations threats at regulator stations.

4. Energy Supply Forecasts Reduced Costs

Within Energy Supply (ES), the Diablo Canyon Power Plant (DCPP), Power Generation, and Energy Policy and Procurement areas/organizations serve customers by safely and efficiently operating utility-owned resources, administering PG&E's supply portfolio, and implementing resource strategies, which together meet PG&E's customers' electricity and natural gas needs. Specifically, ES departments manage expanding safety—and regulatory—compliance requirements, implement customer affordability initiatives, and adapt to market complexity and an evolving regulatory framework. While the ES departments continue to focus on these key issues and challenges, ES forecasts a decrease of $14 million in 2020 expense as compared to 2017 recorded expense. The ES 2020 capital

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24 See Exhibit (PG&E-3), Chapter 1.

25 Public Utilities Code § 963(b)(3).

26 See Exhibit (PG&E-3), Chapter 1.

forecast is a decrease of $192 million compared to 2017 recorded capital.[27] This decrease is mainly associated with the nonrenewal of the Nuclear Regulatory Commission license for DCPP and customer affordability initiatives such as the portfolio optimization of Power Generation facilities.

D. PG&E's Forecasts Were Prepared Before the Camp Fire

Due to the lead time necessary to run the Results of Operations model and finalize the presentation of this case, PG&E completed our forecasts in May 2018, apart from the CWSP and Human Resources benefits forecast, which were completed in October 2018. PG&E's plans are thus based on the information available at those times. Since then, the devastating Camp Fire has changed PG&E's expected workplan for 2018 and 2019 and caused additional financial uncertainty for the Company.

At present, employees throughout the Company have been re-assigned to work on restoration activities in Butte County, diverting them from their normal work. Therefore, the work PG&E conducts in 2018 and 2019 to support Butte County will cause deviations from the work forecast in this proceeding.

In addition, PG&E continues to face extraordinary uncertainties associated with wildfire risk that could significantly impact our ability to access capital on reasonable terms. These uncertainties, which have grown after the Camp Fire, have led to credit rating downgrades in September and November 2018, and may lead to additional downgrades. Weakened credit conditions may impair PG&E's ability to raise new debt and equity, which could impact the amount of work PG&E can commit to financing and require a change to the scope of work that PG&E proposes to accomplish in the upcoming rate case period. Due to the long lead time necessary for real estate transactions, PG&E anticipates that it will not be able to execute on some of the proposals in the Corporate Real Estate testimony and will update that testimony.[28]

Given the evolving situation, PG&E will keep the Commission and parties updated during this proceeding regarding PG&E's financial condition and any significant change required to the work plans included in PG&E's testimony.

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27 See Exhibit (PG&E-5), Chapter 1.

28 See Exhibit (PG&E-7), Chapter 5.

PACIFIC GAS AND ELECTRIC COMPANY

CHAPTER 2

SUMMARY OF PG&E'S

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A. Summary of Forecast

In this application, Pacific Gas and Electric Company (PG&E or the Company) requests that the California Public Utilities Commission (CPUC or Commission) increase gas distribution, electric distribution, and generation base revenue requirements by a total of $1.058 billion,[1] effective January 1, 2020, as compared to adopted revenue requirements for 2019. In addition, PG&E forecasts revenue requirements increases of $454 million and $486 million, respectively, for the 2021 and 2022 attrition years. PG&E requests that the Commission authorize the Company to incorporate these attrition adjustments into its Annual Electric True-Up and Annual Gas True-Up advice filings for 2021 and 2022.

1. Breakdown by Functional Area

This section breaks down the total revenue requirement by the three Federal Energy Regulatory Commission (FERC) functional areas: gas distribution, electric distribution and generation. An allocation of the costs to provide customer service, as well as a share of common facilities and Administrative and General (A&G) costs, are included in the three functional areas.[2]

Gas Distribution – The gas distribution revenue requirement of $2.097 billion reflects PG&E's forecast of costs it will incur in 2020 to safely own, operate, and improve its gas distribution system.[3] This forecast

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[1] Unless otherwise stated, all amounts noted in the testimony and workpapers supporting PG&E's 2020 General Rate Case (GRC) forecast are in nominal dollars. Differences in values set forth in tables may exist due to rounding issues.

[2] Customer service costs are allocated between the gas and electric distribution functions, whereas common facilities and A&G costs are allocated to all three functions.

[3] The commodity cost of natural gas purchased for core customers is not included in this GRC request.

represents a $134 million increase relative to currently adopted gas distribution revenues for 2019.

Electric Distribution – The electric distribution revenue requirement of $5.113 billion reflects PG&E's forecast of costs it will incur in 2020 to safely own, operate and improve the electric distribution system, including the portion of the electric transmission system that provides service directly to end-use customers and to interconnect generation resources. This forecast represents a $749 million increase relative to currently adopted electric distribution revenues for 2019.

Generation – The generation revenue requirement of $2.366 billion reflects PG&E's forecast of costs it will incur in 2020 to safely own, operate and improve its nuclear, hydroelectric, fossil, photovoltaic and fuel cell generation facilities, as well as to purchase electricity for its bundled service electric customers.[4] This forecast represents a $175 million increase relative to currently adopted generation revenues for 2019.

2. Customer Bill Impacts

Over the course of the next year, there will be a number of factors that will increase and decrease overall costs. Isolating the effects of this proposed increase, the resulting impact on residential customers' bills is as follows:

- A typical residential electric customer using 500 kilowatt-hours per month would see their monthly bill increase by $8.73 for a total electric bill of $122.37.
- A typical residential gas customer using 34 therms per month would see their monthly bill increase by $1.84 for a total gas bill of $54.13.

B. Testimony Structure and Highlights

1. Organization of Exhibits

Table 2-1 below provides a summary of the exhibits included in PG&E's opening GRC testimony. As described in Section E below, there are a

4 The cost of electricity provided to bundled service electric customers, including power purchases and fuel costs for PG&E-owned generation, is recovered through the Energy Resource Recovery Account.

number of changes in the presentation of the information compared to the 2017 GRC.

TABLE 2-1
STRUCTURE OF EXHIBITS

Line No.	Exhibit	Summary
1	(PG&E-1) Summary of PG&E's 2020 General Rate Case	• Provides overall policy testimony on PG&E's request including testimony on PG&E's Mission, Vision, and Culture and a summary of PG&E's forecast drivers. • Provides an executive summary of the case and revenue requirement forecast. • Outlines the structure of the remaining exhibits.
2	(PG&E-2) Safety, Risk, and Integrated Planning	• Presents PG&E's safety policy and an update on PG&E's efforts to implement the recommendations of NorthStar Consulting Group (NorthStar) in the Safety Culture Order Instituting Investigation (OII). • Provides a summary of PG&E's Integrated Planning Process and Customer Affordability Roadmap (Affordability). • Present's PG&E's risk management policy, program, and integration of the Risk Assessment and Mitigation Phase into the 2020 GRC request.
3	(PG&E-3) Gas Distribution	• Describes PG&E's policy on managing its gas distribution operations, including its risk management program. • Describes the activities and costs incurred in operating, maintaining and improving gas distribution assets. • Describes how proposed spending addresses safety-related risks. • Presents Gas Distribution's Affordability initiatives and associated savings estimates.
4	(PG&E-4) Electric Distribution	• Describes PG&E's policy on managing its electric distribution operations, including its Community Wildfire Safety Program and risk management program. • Describes the activities and costs incurred in operating, maintaining and improving electric distribution assets. • Describes how proposed spending addresses safety-related risks. • Presents Electric Distribution's Affordability initiatives and associated savings estimates.

TABLE 2-1
STRUCTURE OF EXHIBITS
(CONTINUED)

Line No.	Exhibit	Summary
5	(PG&E-5) Energy Supply	• Describes PG&E's policy on managing its energy supply operations, including its risk management program. • Describes the activities and costs incurred in operating, maintaining and improving generation assets. • Describes the activities and costs incurred to procure electricity and gas. • Describes how proposed spending addresses safety-related risks. • Presents Energy Supply's Affordability initiatives and associated savings estimates.
6	(PG&E-6) Customer Care	• Describes PG&E's policy on managing its distribution customer service functions. • Describes the activities and costs incurred in providing customer services to distribution customers. • Presents Customer Care's Affordability initiatives and associated savings estimates.
7	(PG&E-7) Shared Services and Information Technology	• Describes PG&E's policies on, and costs relating to, common support costs, such as fleet, safety, environmental, materials, corporate security, and building costs and two enterprise-wide programs. • Describes PG&E's policy on, and costs relating to, managing its Information Technology (IT) assets and processes, including cybersecurity.
8	(PG&E-8) Human Resources (HR)	• Describes PG&E's human resources programs, including those related to executive and non-executive compensation, employee benefits, diversity, training and hiring. • Includes the methodology relating to, and results of, the Total Compensation Study. • Describes PG&E's costs relating to the Short-Term Incentive Plan and benefits. • Describes PG&E's HR Department costs. • Describes PG&E's methodology for removing officer compensation from this GRC request in accordance with Senate Bill (SB) 901.
9	(PG&E-9) Administrative and General	• Describes PG&E's A&G costs, including Corporate Services department costs, costs of services provided by PG&E Corporation, insurance, claims and other A&G costs. • Seeks recovery of incremental expenses recorded to the Wildfire Expense Memorandum Account.

TABLE 2-1
STRUCTURE OF EXHIBITS
(CONTINUED)

Line No.	Exhibit	Summary
10	(PG&E-10) Results of Operations	• Presents the electric and gas distribution, and generation results of operations. • Translates the SAP view of costs presented in Exhibits (PG&E-3) through (PG&E-9) to the FERC account view required by the Rate Case Plan. • Presents other technical cost chapters (e.g., taxes, rate base).
11	(PG&E-11) Post-Test Year Ratemaking	• Presents PG&E's proposed mechanism for cost recovery during the attrition years 2021 and 2022. • Presents the forecast of rate base growth for the attrition years.
12	(PG&E-12) General Report	• Presents general information supporting the cost exhibits (e.g., escalation rates). • Presents other information required by the Rate Case Plan including a summary of compliance requirements from various CPUC decisions. • Presents the costs incurred through December 31, 2016 for the Mobile Home Park (MHP) Utility Upgrade Program • Presents the Safety Earnings Adjustment Mechanism proposal pursuant to the NorthStar Report on PG&E's safety culture in the Safety Culture OII. • Presents a master list of acronyms used throughout the case.
13	(PG&E-13) Statement of Qualifications	• Presents an index to the case (e.g., by chapter, by witness). • Presents the statement of qualifications for each witness.

2. Comparison to Currently Adopted Amounts

Figure 2-1 below compares each line of business (LOB) share of the 2017 GRC adopted expense to the 2020 share of forecast expense.[5] In 2020, Electric Distribution expense spending will increase, and all other LOB expense spending will decrease relative to total LOB spending.

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[5] In Figures 1-1 and 1-2, HR department costs are included as part of the Corporate Services' costs.

FIGURE 2-1
2017 ADOPTED AND 2020 FORECAST EXPENSE

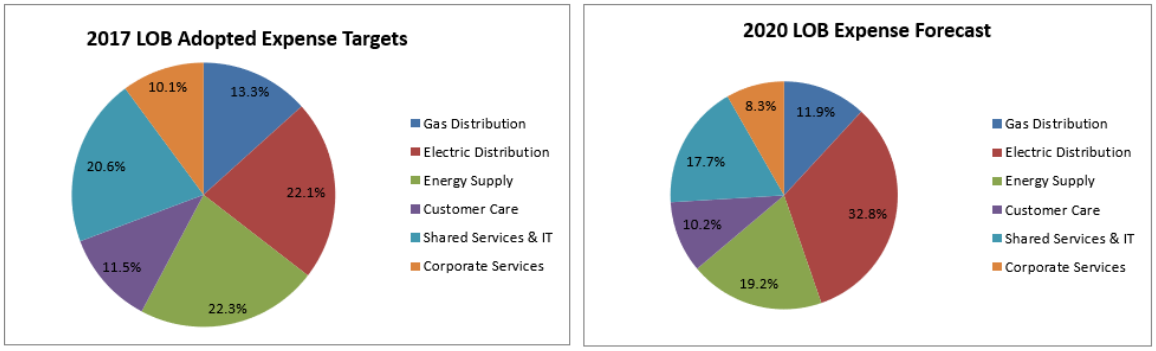

Figure 2-2 below compares each LOB's share of the 2017 GRC imputed adopted capital expenditures to the 2020 share of forecasted capital expenditures. In 2020, the Energy Supply, Gas Distribution, Customer Care, and Corporate Services capital spending will have decreased relative to total LOB capital spending in 2017 and Electric Distribution and Shared Services and IT capital spending will increase relative to total LOB capital spending in 2020.

FIGURE 2-2
2017 ADOPTED AND 2020 FORECAST CAPITAL

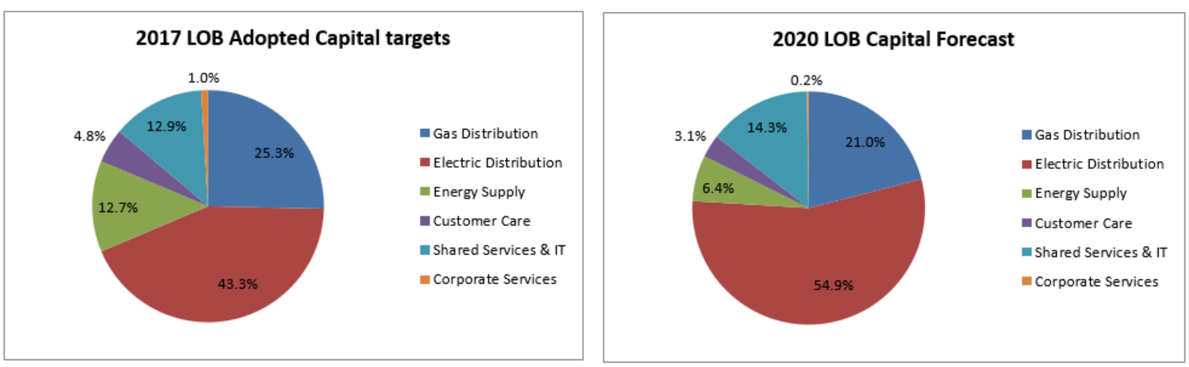

Table 2-2 below provides a summary from PG&E's Results of Operations model that compares PG&E's current 2019 adopted funding level to PG&E's 2020 GRC forecast.

TABLE 2-2
SUMMARY OF PROPOSED INCREASE OVER ADOPTED 2019
(MILLIONS OF NOMINAL DOLLARS)

Line No.	Description	1/1/2020 Authorized (Note 1)	Application: 2020 Proposed	Application: Difference from Authorized	Application: 2021 Proposed	Application: Increase from 2020	Application: 2022 Proposed	Application: Increase from 2021
		(a)	(b)	(c)=(b)-(a)	(d)	(e)=(d)-(b)	(f)	(g)=(f)-(d)
1	Electric Distribution							
2	Operation and Maintenance	809	1,142	333	1,233	91	1,294	62
3	Customer Services	214	197	(17)	192	(5)	187	(5)
4	Administrative & General	399	580	181	594	14	608	14
5	Less: Revenue Credits (OORs & Wheeling)	(118)	(154)	(36)	(154)	-	(154)	-
6	FF&U, Other Adjs, Taxes Other than Income	86	115	29	120	5	130	10
7	Taxes: Income and Property	324	323	(1)	349	26	401	52
8	Depreciation, Decommission and Amortization	1,499	1,610	111	1,712	101	1,818	107
9	Return	1,151	1,300	149	1,399	99	1,502	103
10	Retail Revenue Requirement	4,364	5,113	749	5,444	331	5,786	342
				17.2%		6.5%		6.3%
11	Gas Distribution Total							
12	Operation and Maintenance	395	377	(19)	387	11	398	11
13	Customer Services	121	118	(4)	121	3	124	3
14	Administrative & General	270	344	74	352	8	361	9
15	Less: Revenue Credits (OORs & Wheeling)	(28)	(33)	(5)	(33)	-	(33)	-
16	FF&U, Other Adjs, Taxes Other than Income	55	62	8	65	2	67	2
17	Taxes: Income and Property	83	119	36	136	17	150	14
18	Depreciation, Decommission and Amortization	558	531	(27)	565	34	600	36
19	Return	508	579	70	624	45	670	47
20	Retail Revenue Requirement	1,963	2,097	134	2,217	121	2,339	122
				6.8%		5.8%		5.5%
	Electric Generation							
21	Operation and Maintenance	741	637	(104)	628	(9)	634	6
22	Customer Services	3	4	2	4	0	5	0
23	Administrative & General	284	390	106	400	10	410	10
24	Less: Revenue Credits (OORs & Wheeling)	(6)	(9)	(3)	(9)	-	(9)	-
25	FF&U, Other Adjs, Taxes Other than Income	40	58	18	59	1	60	1
26	Taxes: Income and Property	82	141	60	139	(3)	146	8
27	Depreciation, Decommission and Amortization	620	713	93	728	15	743	15
28	Return	428	431	3	420	(12)	401	(18)
29	Retail Revenue Requirement	2,191	2,366	175	2,368	2	2,391	22
				8.0%		0.1%		0.9%
30	Total							
31	Operation and Maintenance	1,946	2,156	210	2,248	92	2,327	79
32	Customer Services	338	319	(19)	317	(2)	316	(1)
33	Administrative & General	953	1,315	361	1,346	32	1,379	33
34	Less: Revenue Credits (OORs & Wheeling)	(152)	(196)	(44)	(196)	-	(196)	-
35	FF&U, Other Adjs, Taxes Other than Income	181	236	55	244	9	258	13
36	Taxes: Income and Property	488	583	95	623	40	697	73
37	Depreciation, Decommission and Amortization	2,677	2,854	177	3,004	150	3,162	158
38	Return	2,087	2,310	223	2,442	133	2,573	131
39	Retail Revenue Requirement	8,518	9,576	1,058	10,029	454	10,516	486
				12.4%		4.7%		4.8%

Note (1): These amounts include adopted revenues from PG&E's 2017 GRC Decision 17-05-013, adjusted for the Tax Cuts and Job Act of 2017. Also included are:
- The Diablo Canyon Seismic Studies Long Term Seismic Program (LTSP) expenses,
- Residential Rate Reform expenses for Time of Use (TOU) Default Pilots Default TOU Rates, Marketing, Education and Outreach, and implementation of other requirements required by D.15-07-001 and R.12-06-013 and related proceedings,
- Natural Gas Leak Abatement Program Gas Distribution expense and capital costs, pursuant to CPUC Decision 17-06-015 (Ordering Paragraph 12),
- Mobile Home Park to and beyond the meter capital costs recorded through 12/31/17, pursuant to CPUC Decision 14-03-021 (Ordering Paragraph 8),
- Greenhouse Gas (GHG) Compliance Instruments Held for Future Use Inventory, pursuant to CPUC Decision 14-10-033 (Section 7.6.2).

General Note: Columns and rows may not add due to rounding.

Table 2-3 provides a summary of PG&E's LOB actual and planned spending compared to adopted amounts from the 2017 GRC. As illustrated in the table, PG&E expects to spend less than the imputed adopted amounts over the three years in the 2017 GRC cycle for expense and spend more than the imputed adopted amounts over the three years in the 2017 GRC cycle for capital.

TABLE 2-3
COMPARISON OF TOTAL LOB ACTUAL AND PLANNED SPENDING TO IMPUTED ADOPTED LEVEL FOR 2017 GRC PERIOD
(MILLIONS OF NOMINAL DOLLARS)

Line No.	Description	2017		2018		2019		Total Planned Over/(Under) Spending
		Adopted	Recorded	Adopted	Forecast	Adopted	Forecast	
1	Expense	$2,692	$2,529[a]	$2,772	$2,512[b]	$2,848	$2,611[d]	($660)
2	Capital	$3,839	$3,542	$3,563	$3,846[c]	$3,479	$3,976[e]	$483

(a) Includes a recorded erratum reduction of $2.6 million for HR and a recorded erratum reduction of $546 thousand for Gas Distribution.

(b) Includes a forecast erratum reduction of $1.144 million for Administrative and General and a forecast erratum reduction of $1 million for HR.

(c) Includes a forecast erratum reduction of $1.421 million for Gas Distribution, a forecast erratum reduction of $244 thousand for Shared Services and forecast erratum increase of $1.9 million for HR.

(d) Includes a forecast erratum reduction of $2.182 million for Electric Distribution, a forecast erratum reduction of $1.363 million for Administrative and General, a forecast erratum reduction of $800 thousand for HR, and a forecast erratum reduction of $543 thousand for Gas Distribution.

(e) Reflects a forecast erratum reduction of $20.385 million for Gas Distribution and a forecast erratum reduction of $613 thousand for Shared Services.

Note: Corporate Services reflect 100 percent of total Company costs.

C. Relationship to Other Regulatory Proceedings

1. Separately Funded Programs

There are a number of regulatory proceedings that have adopted base revenue increases that have been handled outside of the GRC. PG&E is proposing to include ongoing costs of the following programs in the 2020 GRC that were formerly recovered outside of the GRC:

- Residential Rate Reform
- Long-Term Seismic Studies Program
- Assembly Bill (AB) 802 Memorandum Account
- Natural Gas Leak Abatement Program Balancing Account

See additional information and PG&E's proposed treatment of these programs in PG&E's balancing account testimony in Exhibit (PG&E-12), Chapter 12.

2. Pension

PG&E is not seeking changes to pension expenses or related revenue requirements in this GRC and will continue to recover the costs associated with the pension consistent with the requirements in Decision (D.) 09-09-020.

D. Key Changes From the 2017 GRC

1. Changes in Approach and Presentation

a. Changes to Exhibit (PG&E-4), Electric Distribution

1) Wildfire Overview Chapter Added to Exhibit (PG&E-4)

PG&E presents new testimony as Chapter 2A to provide an overview of the increasing wildfire risks in California resulting from climate-related events and summary of PG&E's proposals to address those risks.

2) New Testimony on Integrated Grid Platform and Grid Modernization Plan

PG&E added a new chapter to discuss the activities and costs associated with its Integrated Grid Platform Program which includes electric distribution technology projects related to modernization of the electric grid.

Additionally, in accordance with the CPUC's March 2018 Grid Modernization D.18-03-023, this new testimony includes PG&E's Grid Modernization Plan which provides PG&E's 10-year grid modernization vision.

b. Changes to Exhibit (PG&E-6), Customer Care

The customer retention testimony, which was included in the 2017 GRC as Chapter 6, is removed from PG&E's 2020 GRC testimony.

c. Changes to Exhibit (PG&E-7), Shared Services and Information Technology

1) Shared Services and Information Technology Exhibit No Longer Includes a Policy Sponsor

Shared Services and Information Technology (IT) Exhibit no longer includes a policy chapter. In the 2017 GRC, Safety and Shared Services was overseen by a Senior Vice President (SVP). In January 2017, this SVP role was eliminated and the functions within the Safety and Shared Services Organization were realigned to other LOBs. However, for continuity between rate cases, PG&E has kept the remainder of the Exhibit 7 structure in the 2020 GRC the same as the 2017 GRC structure.

2) Integrated Disability Management Chapter Now Included in Exhibit (PG&E-7)

PG&E moved the Integrated Disability Management (IDM) chapter from Exhibit (PG&E-8), Human Resources to Exhibit (PG&E-7), Safety and Shared Services, Chapter 1A. The IDM department now reports to the Senior Director of Safety. Reassigning this chapter to Exhibit 7 comports with the operational reporting structure of the IDM department.

3) Presentation of Information Technology Costs, and Corporate and Cybersecurity Costs

PG&E's presentation of IT costs is consistent with its 2017 GRC testimony. PG&E's IT costs are included: in (i) the IT chapter for those projects and programs initiated by the IT Department; and (ii) LOB chapters for those projects initiated by the LOB. For LOB—initiated projects, the justification for and the costs of the project are in the LOB chapter, although questions concerning how the costs were calculated are supported by the IT witness.

PG&E changed its presentation of cybersecurity and corporate security costs. In the 2017 GRC, cybersecurity projects costs initiated by a LOB were included in that LOB's testimony and forecast, but the justification for the project, as well as how the costs were calculated were the responsibility of the cybersecurity witness. In the 2020 GRC, all cybersecurity and corporate security forecasts and justifications are provided in one consolidated chapter, Exhibit (PG&E-7), Chapter 9.

d. Changes to Exhibit (PG&E-8), Human Resources

PG&E is not seeking recovery of officer compensation. PG&E's revenue requirement excludes compensation of executive officers consistent with the Commission's pending draft Resolution (Res.) E-4963, Finding 6 (issued December 6, 2018). This draft resolution implements a provision in SB 901 regarding the recovery of officer compensation in rates. (See Public Utilities Code § 706 (effective January 1, 2019)). PG&E will go beyond the requirements in this draft Resolution and remove the compensation of all other officers from its revenue requirement in a future update.

As the draft Resolution implementing SB 901 was passed after the majority of PG&E's forecast was complete, officer compensation costs were included throughout the LOB forecasts. PG&E made a high-level adjustment to its revenue requirements to remove officer compensation costs for those officers designated by PG&E pursuant to Rule 240.3b-7 of the Securities Exchange Act as of September 2018 from its forecast consistent with Energy Division Draft Res.E-4963 dated October 26, 2018. Additional information regarding PG&E's removal of officer compensation costs from the forecast is in Exhibit (PG&E-8), Chapter 4A.

e. Changes to Exhibit (PG&E-9), Administrative and General

Chapter 3, Risk and Audit Department and Insurance, includes new testimony for recovery of incremental excess liability insurance costs recorded to the Wildfire Expense Memorandum Account.

f. Changes to Exhibit (PG&E-10), Results of Operations

1) Tax Cuts and Jobs Act of 2017

The Tax Cuts and Jobs Act (TCJA) of 2017 reduced corporate taxes beginning January 1, 2018. As such, PG&E's forecasted revenue requirement for the 2020 GRC reflects total tax reductions of $286 million in 2020, $319 million in 2021, and $381 million in 2022. Additional information on PG&E's tax forecast is provided in Exhibit (PG&E-10), Chapter 12.

2) New Diablo Canyon Power Plant Capital Depreciation True-Up Proposal

In accordance with D.18-01-022 in Application 16-08-006, Chapter 10, Depreciation Reserve and Expense, includes new testimony regarding the true-up of Diablo Canyon Power Plant capital depreciation.

3) Electric and Gas Revenues at Present Rates Moved to Exhibit (PG&E-12)

In the 2017 GRC, the testimony on electric and gas revenues at present rates were included in Exhibit (PG&E-10), as Chapters 15 and 16, respectively. In the 2020 GRC the electric and gas revenues at present rates testimony are included in Exhibit (PG&E-12), as Chapters 7 and 8, respectively.

g. Changes to Exhibit (PG&E-12), General Report

1) New Mobile Home Park Upgrade Chapter

In accordance with Ordering Paragraph 8 of D.14-03-021, PG&E added testimony to describe the activities and reasonableness of costs recorded through year-end 2016 in executing the MHP Pilot Program. This testimony is in the new Exhibit (PG&E-12), Chapter 13.

2) New Safety Earning Adjustment Chapter

Pursuant to the recommendation in the NorthStar Consulting Group's report on PG&E's safety culture in the Commission's "Order Instituting Investigation on the Commission's Own Motion to Determine Whether Pacific Gas and Electric Company and PG&E Corporation's Organizational Culture and Governance Prioritize Safety," PG&E proposes a safety-related shareholder earnings adjustment mechanism that puts a portion of PG&E's annual earnings at risk as a function of PG&E's performance on safety. This proposal is provided in the new Exhibit (PG&E-12), Chapter 14.

h. Update on Balancing and Memorandum Accounts

PG&E is proposing 3 new balancing accounts as follows:

- Wildfire Mitigation Balancing Account
- Risk Transfer Balancing Account
- Residential Rate Reform subaccount in existing Statewide Marketing Education and Outreach Balancing Account

PG&E is also proposing termination of the following accounts as they are either being subsumed into the 2020 GRC, required to be closed before 2020, or are no longer needed:

- Fire Hazard Prevention Memorandum Account
- Natural Gas Leak Abatement Balancing Account
- Diablo Canyon Seismic Studies Balancing Account
- AB 802 Memorandum Account
- Tax Memorandum Account
- Incremental Inspection and Removal Cost Tracking Account, a subaccount of the Vegetation Management Balancing Account

A complete list and discussion of new balancing accounts, changes to existing balancing and memorandum accounts, and balancing and memorandum accounts to be terminated can be found in Exhibit (PG&E-12), Chapter 12.

2. Potential Updates

PG&E has identified two updates that may be required.

Financial Update

As discussed in the testimony of Steven Malnight (Exhibit (PG&E-1), Chapter 1), PG&E is facing uncertain financial uncertainties that may impair the Utility's ability to raise new debt and equity, which could impact the amount of work PG&E can commit to financing and require a change to the scope of work proposed in this proceeding. In addition, PG&E employees have been diverted from their planned 2018 and 2019 work to restore electric and gas services in Butte County. Both PG&E's financial condition and the reprioritization of PG&E's work this year will necessitate changes to the work forecasted in this proceeding. PG&E plans to revise work proposed in the Corporate Real Estate testimony, (Exhibit (PG&E-7), Chapter 5). PG&E will update the Commission and parties throughout this proceeding and will discuss providing a testimony update at the prehearing conference.

San Francisco Proposition C Increase to Gross Receipts Tax

This proposition, passed by the voters of San Francisco on November 5, 2018, approved a business tax effective January 1, 2019, to fund programs for homeless services in San Francisco. This tax is at a rate between 0.175 percent and 0.69 percent of gross receipts above $50 million, depending on business type. PG&E is working to assess the impacts of this recently-approved ballot measure and may provide update testimony in advance of evidentiary hearings.[6]

E. Miscellaneous Issues

1. Cost Model Changes

PG&E revised its cost model accounting in 2016. The 2020 GRC is presented in the new cost model view only. To facilitate comparisons between future cost forecasts based on the new cost model and historical costs recorded prior to 2016 under the old cost model, PG&E converted and shows the historical costs in the new cost model view. Additionally, beginning in 2020, PG&E proposes to change how overhead costs are applied to balancing account expense orders and capital and expense orders recorded to the CEMA. Detailed explanations of these changes are provided in Exhibit (PG&E-12), Chapter 3.

2. Timing and Basis of Forecast

Due to the time necessary to review the results of PG&E's Results of Operations model and prepare the necessary workpapers and documentation, with limited exceptions, PG&E had to freeze the inputs to its forecast for the period 2018 through 2022 as of May 16, 2018. PG&E's wildfire mitigations-related forecasts which were developed following the passage of SB 901 and HR benefits forecasts for the period 2019 through 2022 were frozen as of October 26, 2018. The reasonableness of PG&E's forecast should thus be judged based on the information available to the Company as of these dates.

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[6] See Exhibit (PG&E-10), Chapter 8.