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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2020. (U 39 M)	Application No. 18-12-009 (Filed: December 13, 2018)

(NOT CONSOLIDATED)

Application of Pacific Gas and Electric Company (U 39 M) to Submit Its 2020 Risk Assessment and Mitigation Phase Report.	Application No. 20-06-012 (Filed June 30, 2020)

PACIFIC GAS AND ELECTRIC COMPANY'S (U39M) 2020 RISK SPENDING ACCOUNTABILITY REPORT

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Dated: March 31, 2021

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OF THE STATE OF CALIFORNIA

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PACIFIC GAS AND ELECTRIC COMPANY'S (U39M) 2020 RISK SPENDING ACCOUNTABILITY REPORT

Pacific Gas and Electric Company (PG&E) submits its 2020 Risk Spending Accountability Report in Compliance with the *Phase Two Decision Adopting Risk Spending Accountability Report Requirements And Safety Performance Metrics For Investor-Owned Utilities And Adopting A Safety Model Approach For Small And Multi-Jurisdictional Utilities*, Decision (D.) 19-04-020 ("Decision"). This 2020 Report covers spend authorized in the Test Year 2020 General Rate Case ("GRC") cycle for activities that address safety, reliability, and/or maintenance, consistent with Public Utilities Code Section 591. This report is timely filed in accordance with Table 5 of the Decision.

Pursuant to the Decision, PG&E is incorporating new requirements in this annual Risk Spending Accountability Report ("RSAR").[1] The Decision requires the list of programs that are related to safety, reliability, or maintenance "be separated into risk mitigation programs identified in the risk assessment and mitigation phase (RAMP)."[2] PG&E's first RAMP, filed in 2017, is the foundation for PG&E's 2020 GRC for the years 2020-2022.

[1] Decision, Ordering Paragraph (OP) 9.
[2] D.19-04-020, Attachment 2, p. 1.

The Decision contains new variance thresholds for the investor-owned utilities, with an option for PG&E to continue to follow its prior reporting thresholds.[3] PG&E in this RSAR has elected to follow the reporting requirements in the Decision.

As directed in the Decision, PG&E notifies parties that they are permitted to file comments in the GRC proceeding where PG&E's 2020 funding was authorized (A.18-12-009) and Risk Assessment Mitigation Phase proceeding (A. 20-06-012) with copies of the comments emailed to Energy Division's Tariff Unit (**edtariffunit@cpuc.ca.gov**). Any comments should clearly identify the RSAR on which they are commenting. Energy Division shall serve an Annual Schedule that will include the deadlines for parties to file comments for each utility's RSAR by April 10, 2021.

PG&E's 2020 RSAR is provided as Attachment A.

Respectfully Submitted,

Pacific Gas and Electric Company

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Dated: March 31, 2021

[3] Decision, p. 41, fn. 75.

PACIFIC GAS AND ELECTRIC COMPANY

ATTACHMENT A

PACIFIC GAS AND ELECTRIC COMPANY'S (U39M)

2020 RISK SPENDING ACCOUNTABILITY REPORT

PACIFIC GAS AND ELECTRIC COMPANY

2020 RISK SPENDING ACCOUNTABILITY REPORT IN COMPLIANCE WITH CALIFORNIA PUBLIC UTILITIES COMMISSION DECISION 19-04-020

MARCH 31, 2021

PACIFIC GAS AND ELECTRIC COMPANY
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SECTION 1
INTRODUCTION AND OVERVIEW

A. Introduction

Pacific Gas and Electric Company (PG&E or the Company) submits its 2020 Risk Spending Accountability Report (RSAR) in compliance with the *Phase Two Decision Adopting Risk Spending Accountability Report Requirements and Safety Performance Metrics for Investor-Owned Utilities and Adopting a Safety Model Approach for Small and Multi-Jurisdictional Utilities*, Decision (D.) 19-04-020 (the Decision).

This report is organized as follows:

The Introduction and Overview section of this report (Section 1) provides an overview of PG&E's 2020 General Rate Case (GRC) imputed adopted costs and recorded costs for Gas Distribution, Electric Distribution, Energy Supply, Customer Care, Shared Services/Information Technology (IT), Corporate Services, and Human Resources for 2020.

Sections 2 through 6 contain detailed comparisons of PG&E's 2020 imputed adopted and recorded costs by line of business (LOB).[1] Specifically, Sections 2 through 6 contain:

1) PG&E's imputed adopted and recorded costs/units for 2020, by Major Work Category (MWC) and/or Maintenance Activity Type (MAT) Code for Gas Distribution, Electric Distribution, Energy Supply, Customer Care, and Shared Services/IT.
2) Variance explanations for:
    a) Imputed adopted versus recorded costs/units for 2020 by MWC and/or MAT for safety, reliability, and maintenance work subject to the following thresholds.[2]
    - Expense: A variance of at least $10 million, or a percentage variance of at least 20 percent subject to a minimum variance of $5 million;

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1 Corporate Services do not have costs that meet the variance explanation requirements.

2 D.19-04-020, Table 4, p. 43.

- Capital: A variance of at least $20 million, or a percentage variance of at least 20 percent subject to a minimum variance of $10 million; and
- Units: A variance of at least 20 percent of work units performed.[3]

Section 7 discusses the cost recovery of expenditures that flow through balancing or memorandum accounts.

The Decision requires the list of programs that are related to safety, reliability, or maintenance to "be separated into risk mitigation programs identified in the risk assessment and mitigation phase (RAMP)."[4] This is a new requirement for PG&E's 2020 RSAR. PG&E's 2017 RAMP supported PG&E's 2020 GRC. The data provided in this RSAR is organized by RAMP Risk, RAMP mitigation, and Non-RAMP spending on safety, reliability and maintenance programs. The RAMP risks and mitigations included in this report are those presented in PG&E's 2020 GRC, which updated the analysis in the 2017 RAMP.

A few clarifying notes for reviewers on PG&E's RAMP presentation. Programs that are labeled as "SRM Total (Non-RAMP)" represent programs that have no RAMP risk mitigations. Spending for new RAMP risk mitigation activities not identified in PG&E's 2020 GRC that are safety, reliability, and maintenance activities are included in the "Post 2020 GRC Mitigations" category.

In its review letter[5] Energy Division requested "PG&E provide in its next RSAR for 2020 the most recent risk spend efficiencies in accordance with the method adopted in D.18-12-014, Phase Two Decision Adopting Safety Model Assessment Proceeding Settlement Agreement With Modifications, or other measure of prioritization, and descriptions of how changes in priority occurred that led to shifting funds between programs." PG&E did not prioritize funding of 2020 activities with the use of RSEs. PG&E's 2020 enterprise budget planning process required each LOB or department to prepare a bottoms up risk-informed process incorporating the general and risk-related forecast assumptions included used in PG&E's then-pending 2020 GRC, which included updates to its risk planning and forecast assumptions related to its 2017 Risk Assessment and

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3 D.19-04-020, p. 54, Ordering Paragraph (OP) 11.

4 D.19-04-020, Attachment 2, p. 1, p. 36.

5 November 13, 2020 (revised December 15, 2020) letter from Energy Division Director, Edward Randolph, to PG&E's Vice President of Regulatory Affairs, Robert Kenney, p. 11.

Mitigation Phase, and 2019 Gas Transmission and Storage Rate Case (GT&S). These bottoms-up forecasts reflect the investment and resource plans created by each LOB with input from its planning team, asset and risk managers, engineers and other subject matter experts. The 2020 budget plans were further updated in November 2019 to reflect the outcome of the 2019 GT&S; in February 2020 to reflect the December 2019 multi-party settlement reached in the 2020 GRC; and to reflect the 2020 Wildfire Mitigation Plan cost estimates filed in February 2020. PG&E is in the process of updating its enterprise planning process which will be detailed in PG&E's upcoming 2023 GRC.

B. 2020 Expense and Capital Comparison of Imputed Adopted and Recorded Costs Summary

This report provides a summary of PG&E's 2020 actual expense and capital expenditures[6] compared to imputed adopted costs derived from PG&E's 2020 GRC decision.[7] This report includes expenditures of the core lines of business (LOB) (Electric Distribution, Gas Distribution and Energy Supply) and support organizations (Customer Care, Shared Services, IT, and Corporate Services). PG&E's 2020 GRC is for the years 2020 through 2022.

This report complies with D.19-04-020 OP 8 and Energy Division's guidance.[8] While this report presents certain LOB expenditures, it is not representative of total Company expenditures. Specifically, this report does not include expenditures on companywide items, including liability insurance premiums that were significantly higher than amounts adopted in the 2020 GRC, and does not include emergency response and restoration costs that are recorded in the Catastrophic Event Memorandum Account. Costs that are recorded in non-GRC memorandum accounts included in this report are those that are recorded in the Fire Risk Mitigation Memorandum Account (FRMMA)

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6 Data is as of January 15, 2021.

7 D.20-12-005.

8 November 13, 2020 (revised December 15, 2020) letter from Energy Division Director, Edward Randolph, to PG&E's Vice President of Regulatory Affairs, Robert Kenney.

and the Wildfire Mitigation Plan Memorandum Account (WMPMA) because these costs and activities align with costs and activities in PG&E's 2020 GRC.[9]

1. Expense

PG&E's 2020 LOB expense spending exceeded imputed adopted values by $1,331.9 million. The increase was primarily attributable to additional wildfire risk mitigation work which included: enhanced inspections and associated repairs, enhanced vegetation management, and Public Safety Power Shutoff (PSPS) event activities within Electric Distribution. These increases were partially offset by lower levels of spending in Energy Supply, Customer Care, Shared Services, and IT. Energy Supply had the greatest reduction in spending relative to imputed adopted values. The decrease in spending is primarily due to the GRC adopted costs of the Long-Term Service Agreements (LTSA) at Colusa Generating Station (CGS) and Gateway Generating Station (GGS) being levelized over the 3-year GRC period (2020-2022). The actual expenditures for the outages will be recorded in 2021 and 2022, when the outages occur. Spending reductions for Customer Care were primarily due to the movement of the Field Meter Operations (FMO) in 2018 from Customer Care to Electric Operations and Gas Operations (FMO transfer). Spending reductions for Shared Services and IT were primarily achieved through operational efficiencies which reduced spending without impacting public or employee safety and reliability. Spending reductions for Corporate Real Estate Strategy and Service (CRESS) were primarily attributable to a reduction in building maintenance activities.

2. Capital

In 2020, PG&E's capital spending exceeded imputed adopted values by $834.6 million. The increase was primarily attributable to additional spending in Electric Distribution related to pole replacements and equipment replacements associated with enhanced wildfire inspections, partially offset by lower spending in Customer Care and Corporate Services.

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9 While the Commission approved PG&E's Wildfire Mitigation Balancing Account (WMBA) inD.20-12-005. due to the timing of the decision, much of the wildfire costs were initially booked to FRMMA/WMPMA in 2020.

C. Summary Tables

PG&E's methodology to derive its imputed adopted costs from the 2020 GRC Decision is described in Appendix A: 2020 GRC Imputed Regulatory Values Methodology. The tables below summarize PG&E's 2020 spending by expense and capital by LOB.

TABLE 1-1
2020 IMPUTED ADOPTED VS. ACTUAL EXPENSE BY LOB
(MILLIONS OF DOLLARS)

LOB	2020 Imputed Adopted Costs ($000) (A)	2020 Actual Costs ($000) (B)	2020 Cost Difference ($000) (B-A)	2020 Cost Percent Change (%) (B-A)/A
Gas Distribution	369.1	420.2	51.2	13.9%
Electric Distribution	966.9	2,244.3	1,277.4	132.1%
Energy Supply	595.9	581.3	(14.5)	-2.4%
Customer Care	277.5	272.5	(5.0)	-1.8%
Shared Services/IT	544.7	536.7	(8.0)	-1.5%
Corporate Services	168.0	196.3	28.3	16.8%
Human Resources	78.2	80.7	2.6	3.3%
Total	**3,000.2**	**4,332.1**	**1,331.9**	**44.4%**

TABLE 1-2
2020 IMPUTED ADOPTED VS. ACTUAL CAPITAL BY LOB
(MILLIONS OF DOLLARS)

Line No.	LOB	2020 Imputed Adopted Costs ($000) (A)	2020 Actual Costs ($000) (B)	2020 Cost Difference ($000) (B-A)	2020 Cost Percent Change (%) (B-A)/A
1	Gas Distribution	1,013.5	996.7	(16.8)	-1.7%
2	Electric Distribution	2,217.7	2,924.0	706.4	31.9%
3	Energy Supply	275.0	280.5	5.5	2.0%
4	Customer Care	138.7	135.3	(3.4)	-2.4%
5	Shared Services/IT	435.0	585.6	150.6	34.6%
6	Corporate Services	8.3	1.3	(7.0)	-84.1%
7	Human Resources	2.4	1.7	(0.7)	-28.6%
8	**Total**	**4,090.6**	**4,925.2**	**834.6**	**20.4%**

D. 2020 Imputed vs. Recorded Comparison by LOB

The significant drivers of the differences between 2020 imputed adopted and recorded costs for each LOB are summarized below.

IT costs attributable to the LOBs at issue in this report are presented in a decentralized fashion, meaning LOB-specific IT program costs are included with the costs of the LOBs that initiated the programs.

1. Gas Distribution

Expense: Gas Distribution's total recorded expenses in 2020 exceeded imputed adopted values by $51.2 million or 13.9 percent. For safety, reliability, and maintenance work, 2020 recorded expenses exceeded imputed values by $44.6 million, or 14.6 percent.[10] The increases were primarily attributable to: (1) higher unit costs for leak repair and leak survey as well as an increase in the amount of leak-related work performed in 2020, and (2) additional standby costs for gas leak and emergency response resulting from an accounting change.

Capital: Gas Distribution's total 2020 recorded capital expenditures were below imputed adopted values by $16.8 million, or 1.7 percent. For

[10] MWC Operational Management (OM) is included as a maintenance activity in accordance with Energy Division's February 12, 2019 letter to PG&E. Gas Distribution does not consider MWC OM as safety, reliability, and maintenance work.

safety, reliability, and maintenance work, 2020 recorded capital expenditures were below imputed adopted values by $66.7 million, or 8 percent. The decreases were primarily attributable to: (1) pipeline replacement project delays and high pressure regulator construction delays resulting in less work being completed, and (2) less capital meter protection work materializing than expected.

2. Electric Distribution

Expense: Electric Distribution's total recorded expenses in 2020 exceeded imputed adopted values by $1,277.4 million or 132.1 percent. For safety, reliability and maintenance work, 2020 recorded expenses exceeded imputed adopted values by $1,248.6 million or 136.3 percent. The increases were primarily attributable to: (1) wildfire mitigation work not forecast in the 2020 GRC which included Wildfire Safety Inspection Program enhanced inspections and associated repairs, (2) higher costs for routine and enhanced vegetation management driven by Senate Bill 247 tree trimmer pay increase requirements, (3) tree mortality work not forecast in the 2020 GRC and included to the Vegetation Management Balancing Account per D.20-12-005, and (4) costs for executing PSPS events not forecast in the 2020 GRC. Other increase drivers include costs associated with responding to routine emergencies, and the 2018 FMO transfer.

Capital: Electric Distribution's total recorded capital expenditures in 2020 exceeded imputed adopted values by $706.4 million or 31.9 percent. For safety, reliability and maintenance work, 2020 recorded capital expenditures exceeded imputed adopted values by $591.7 million or 36.7 percent. The increase drivers were primarily attributable to: (1) equipment replacements identified though enhanced inspections in High Fire Threat District (HFTD); (2) an increased number of pole replacements with higher unit costs; (3) an increased number of sectionalizing devices installed to reduce PSPS impacts; and (4) increased costs for routine and substation emergency work. There were also increased expenditures for substation equipment replacement, which included costs to pursue the next phase of switchgear projects at several substations and continuation of costs for key substation transformer replacement work, technology to support wildfire mitigation work not forecast in the 2020 GRC, and costs

associated with the 2018 FMO transfer. The increases were partially offset by reductions in overhead conductor replacement in the non-HFTD areas due to work deferral associated with COVID-19, shifting of resources to support wildfire mitigation work, and lower expenditures in underground cable replacement work due to limited resource availability.

3. Energy Supply

This section includes costs associated with Energy Policy and Procurement, Nuclear Generation, and Power Generation other than power purchase agreement and fuel costs.

a. Energy Policy and Procurement

The Energy Policy and Procurement Department does not have safety, reliability, or maintenance related work. Therefore, no additional information is provided for this department.

b. Nuclear Generation

Expense: Nuclear Generation's total recorded expenses in 2020 were below imputed adopted values by $14.9 million or 4.1 percent. For safety, reliability and maintenance work, 2020 recorded expenses were below imputed adopted values by $22.3 million or 7.1 percent. The decrease in spending is spread across several MWCs but is primarily driven by the GRC imputed adopted costs of the second refueling outage being levelized over the 3-year GRC period (2020-2022). The GRC imputed adopted levelized amount is approximately $15 million annually. The actual costs for this outage will be recorded in 2022 when the outage is scheduled.

Capital: Nuclear Generation's total 2020 recorded capital expenditures exceeded imputed adopted values by $13.5 million or 30.8 percent. For safety, reliability and maintenance work, 2020 recorded capital expenditures exceeded imputed adopted by $10.9 million or 28.3 percent. The primary drivers for the increases are: (1) rescheduling of the Diablo Canyon north access road project from 2018 to 2020 due to permitting delays; (2) implementation of an unplanned reactor coolant pump seals project that was not included in PG&E's forecast; and (3) a one-time accounting adjustment for

Allowance for Funds Used During Construction rate modification. This increase is partially offset by cancellation of projects not required to be performed prior to plant shutdown.

c. Power Generation

Expense: Power Generation's total expenses in 2020 were below imputed adopted by $3.5 million or 1.7 percent. For safety, reliability and maintenance work, 2020 recorded expenses exceeded imputed adopted values by $0.7 million or 0.4 percent. The increase drivers are primarily attributable to: (1) an increase in spending on mitigations to address the Hydro System Safety risk; (2) emergent costs related to achieving full compliance for all risks at Level 3 per PG&E's compliance maturity model; (3) an emergent hydro system-wide powerhouse safety mitigation program to mitigate safety risks resulting from dropped objects from heights (e.g., tools from scaffolding) that was not included in PG&E's forecast; (4) costs related to accelerating guidance document completion to meet Level 3 compliance deadline; and (5) emergent physical security and cybersecurity costs at our Federal Energy Regulatory Commission (FERC)-regulated facilities to meet new FERC regulations. These increased costs were offset, in part, due to the GRC adopted costs of the LTSAs at CGS and GGS being levelized over a 3-year GRC period (2020-2022). The actual costs for the outages will be recorded in 2021 and 2022, when the outages occur.

Capital: Power Generation's total 2020 recorded capital expenditures were below the imputed adopted values by $7.2 million or 3.2 percent. For safety, reliability and maintenance work, 2020 recorded capital expenditures were below the imputed adopted values by $1.2 million or 0.6 percent.

4. Customer Care

Expense: Customer Care's total recorded expenses in 2020 were below imputed adopted values by $5.0 million or 1.8 percent. For safety, reliability, and maintenance work, 2020 recorded expenses were below imputed adopted values by $0.3 million or 0.4 percent. The decrease in total spending is primarily attributable to the 2018 FMO transfer.

Capital: Customer Care's total 2020 recorded capital expenditures were below imputed adopted values by $3.4 million or 2.4 percent. For safety, reliability, and maintenance work, 2020 recorded capital expenditures were below imputed adopted values by $15.1 million or 11.5 percent. The decrease in spending is primarily attributable to the 2018 FMO transfer.[11]

5. Shared Services/IT

Expense: Shared Services and IT's total recorded expenses in 2020 were below imputed adopted values by $8 million or 1.5 percent. The decrease was primarily attributable to operational efficiencies in Sourcing's procurement process which did not impact safety, reliability or maintenance. The underspend above is partially offset by overspend in IT and Security on various technology solutions that improved or maintained safety, reliability or maintenance, e.g., cybersecurity services, discounted network vendor service agreements and support for IT operation centers.

Capital: Shared Services and IT's total 2020 recorded capital expenditures exceeded imputed adopted by $150.6 million or 34.6 percent. The increase was primarily attributable to an increase in specialized vehicle and construction equipment investments in Transportation Services (Fleet) as part of a rent-to-buy initiative that focuses on long-term savings by reducing reliance on high-cost rentals. CRESS investments in wildfire emergency generation enhancements were recorded in the FRMMA/WMPMA. In addition to the increase discussed above, IT exceeded imputed adopted by delivering various technology solutions that served to either improve or maintain safety, reliability or maintenance, e.g., continued investments in asset lifecycle programs for Cybersecurity, data centers and mobility.

a. Corporate Real Estate

Expense: For safety, reliability, and maintenance work, 2020 recorded expenses were below imputed adopted values by $3.3 million or 26.8 percent. This decrease is primarily associated with a reduction

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11 The FMO team was included in the Customer Care exhibit in the 2020 GRC because the decision to transfer these operations to Electric Operations and Gas Operations was made after PG&E finalized its 2020 GRC forecast.

in planned building maintenance activities that do not directly affect building safety.

Capital: For safety, reliability, and maintenance work, 2020 recorded capital expenditures for safety, reliability, and maintenance work exceeded imputed adopted values by $34.4 million or 20.2 percent. The increase is primarily attributable to investments related to emergency generation enhancements for wildfire mitigation recorded in the FRMMA/WMPMA.

b. Corporate Services

The Corporate Services total expenses do not include any safety, reliability, or maintenance work as defined in D.19-04-020.[12] Therefore, no additional information is provided for this organization. Marketing and Communications recorded an incremental spending of $11.5 million to the FRMMA/WMPMA for costs associated with PSPS event communications.

6. Human Resources

Expense: Human Resources total recorded expenses in 2020 were above imputed adopted values by $2.6 million or 3 percent. The majority of the increase is due to Electric and Gas Curriculum Development and Training Delivery. The spending increase is offset by an underspend in IT projects. For safety, reliability, and maintenance work within PG&E Academy, 2020 recorded expenses were above imputed adopted values by $4.6 million or 13 percent. The majority of the increase is due to Electric and Gas Curriculum Development and Training Delivery.[13]

Capital: Human Resources total 2020 recorded capital expenditures were below imputed adopted values by $0.7 million or 29 percent. The majority of the underspend is related to IT projects.

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[12] D.19-04-020, Attachment 2, p. 3.

[13] PG&E Academy spend does include related dollars in WMBA.

PACIFIC GAS AND ELECTRIC COMPANY

SECTION 2

GAS DISTRIBUTION

IMPUTED ADOPTED VS. RECORDED COMPARISON

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IMPUTED ADOPTED VS. RECORDED COMPARISON

A. Introduction

This section includes the following information for the Gas Distribution line of business (LOB): a comparison of the total 2020 imputed adopted spend to the actual spend, Major Work Category (MWC) descriptions, and for those programs that are related to safety, reliability, or maintenance the 2020 imputed adopted spend vs. actual spend comparison details, Maintenance Activity Type (MAT) descriptions, and variance explanations. In addition, per Decision (D.) 19-04-020, the MWC and MAT descriptions include how each program relates to safety, reliability, or maintenance.

B. Comparison Summary Tables

TABLE 2-1
GAS DISTRIBUTION 2020 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs (A)	2020 Actual Costs (a) (B)	2020 Cost Difference (B-A)
1	Support	AB	17,277.6	20,255.2	2,977.6
2	Provide Field Service	DD	43,572.3	50,202.6	6,630.3
3	Leak Survey	DE	24,328.6	35,141.6	10,813.0
4	Locate and Mark	DF	43,952.5	31,765.4	(12,187.1)
5	Cathodic Protection	DG	20,170.6	23,954.3	3,783.7
6	Develop & Provide Training	DN	4,795.6	883.2	(3,912.4)
7	Meter Protection Program	EX	8,221.8	11,485.2	3,263.4
8	Operate Gas Distribution System	FG	8,987.4	8,767.4	(220.0)
9	Gas Preventive Maintenance	FH	22,475.4	31,790.4	9,315.0
10	Gas Corrective Maintenance	FI/LW [(a)]	60,251.4	82,305.1	22,053.7
11	Gas Mapping	GF	4,268.9	3,393.9	(874.9)
12	Gas Distribution Planning & Operations Engineering	GG	6,264.5	7,846.3	1,581.8
13	Natural Gas Fueling Facilities Operation and Maintenance (O&M)	GM	3,774.2	3,997.2	222.9
14	Gas Research and Development (R&D)	GZ	3,403.1	3,289.6	(113.4)
15	Gas Meter Maintenance	HY	1,828.4	2,181.9	353.4
16	Gas Distribution Integrity Management Program	JQ	41,542.9	44,092.2	2,549.3
17	Information Technology	JV	12,553.3	10,503.7	(2,049.6)
18	Gas Expense Work at the Request of Others (WRO)	LK	5,946.3	7,393.8	1,447.5
19	Operational Management	OM	17,023.5	14,363.0	(2,660.6)
20	Operational Support	OS	18,442.2	26,631.2	8,189.0
21	**Total** [(b)]		**369,080.6**	**420,243.3**	**51,162.6**

(a) In 2020, approximately $109.8 under MWC LW will be realigned to MWC FI. The corrections will be captured as part of 2021 recorded data.
(b) In addition to the MWCs listed above, in 2020, approximately $.03 was recorded in MWC BC, and approximately $.04 was recorded in MWC JU.

TABLE 2-2
GAS DISTRIBUTION 2020 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)
1	Tools and Equipment	05	3,335.1	4,530.6	1,195.4
2	Gas Pipeline Replacement Program	14	453,378.1	420,459.8	(32,918.2)
3	Miscellaneous Capital	21	0.0	15,917.6	15,917.6
4	Gas Meter Protection	27	21,603.0	1,818.5	(19,784.5)
5	Gas Distribution Customer Connects	29	86,156.3	132,015.0	45,858.7
6	Build IT Applications & Infrastructure	2F	11,636.1	10,078.7	(1,557.3)
7	Gas Distribution Replace/Convert Customer HPRs	2K	58,998.1	47,049.5	(11,948.6)
8	NGV - Station Infrastructure	31	4,064.7	4,698.2	633.5
9	Gas Distribution Capacity	47	38,894.4	35,393.5	(3,500.9)
10	Gas Distribution Control Operations Assets	4A	29,703.7	27,814.7	(1,889.1)
11	Gas Distribution Reliability	50/3P	228,487.4	230,193.4	1,706.0
12	Gas Capital WRO	51	74,418.6	62,898.5	(11,520.1)
13	Gas Distribution Emergency Response	52	880.7	1,599.2	718.5
14	Install New Gas Meters	74	1,940.6	2,268.5	327.9
15	Manage Buildings	78	0.0	0.4	0.4
16	**Total**		**1,013,496.8**	**996,736.1**	**(16,760.7)**

C. MWC Descriptions – Expense

MWC AB – Support – Encompasses miscellaneous gas distribution costs not aligned with other MWCs or MAT, including, but not limited to: (1) Miscellaneous expenses such as industry association dues and miscellaneous contract spend; and (2) Collection point for zero sum allocation

type work such as Standard Cost Variance,[1] Blanket Purchase Orders and Working Stock.

This MWC does not relate directly to safety and/or reliability and/or maintenance.

MWC DD – Provide Field Service – Includes customer generated requests for service that require site visit by field technician, as well as immediate response standby costs. Service requests include investigating reports of possible gas leaks, carbon monoxide monitoring, customer requests for stop/starts of gas service, appliance pilot relights, appliance adjustment and safety checks.

This MWC relates to safety and/or reliability and/or maintenance as it includes customer generated requests for service that require site visit by field technician to address issues such as possible gas leaks or safety checks.

MWC DE –Leak Survey – Includes periodic or routine leak surveys performed by PG&E on its distribution system that are necessary to comply with pipeline safety regulations. MWC DE also includes special leak surveys conducted by PG&E on its gas distribution system that are outside of the routine leak survey schedule for either operating reasons or to assess the integrity of the pipe.

This MWC relates to safety and/or reliability and/or maintenance as it includes periodic or routine leak surveys performed by PG&E on its distribution system that are necessary to comply with pipeline safety regulations.

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[1] Standard Cost Variance (SCV) represents the difference between actual costs incurred and the amount charged out by employees at a predetermined rate (i.e., standard cost). Costs charged out are calculated using productive hours multiplied by a planned standard hourly rate. When results match initial estimates, SCV should be minimal. That said, while initial estimates do factor in external factors (e.g., extreme weather) based on historical data, actual results inevitably vary resulting in a SCV. The following is a simplified example of the standard cost calculation and how SCVs occur. Based on the historic pattern of Team A's productivity and anticipated workload, it is projected that Team A will have a monthly cost of $100,000 for 10 employees and will perform 1,000 hours of work in a month. The resulting standard rate for Team A is $100 per hour ($100,000/1,000 hours). If Team A completes 1,000 hours of work in the month according to plan, Team A will have a zero SCV. However, if Team A does not complete all the planned work, e.g., due to unanticipated bad weather, and only completes 950 hours of work, Team A will have an unfavorable SCV of $5,000 (50 hours × $100 per hour).

MWC DF – Locate and Mark – Includes the work necessary to comply with federal pipeline safety regulations and state law that requires PG&E to belong to and share the costs of operating the regional "one-call" notification systems. Builders, contractors, and others planning to excavate use these systems to notify underground facility owners, like PG&E, of their intent to excavate. PG&E then provides the excavators with information about the location of its underground facilities by visiting the work site and placing color-coded surface markings to show the location of pipes and wires. Excavation activities that are within specified distances of high priority facilities require field meets or standby.

This MWC relates to safety and/or reliability and/or maintenance as it includes the work necessary to comply with federal pipeline safety regulations and state law that requires PG&E to belong to, respond to notifications, and share the costs of operating the regional "one-call" notification systems.

MWC DG –Cathodic Protection (CP) – Includes work related to mitigating the effects of corrosion on metallic gas distribution pipelines. Corrosion of gas piping systems can cause leaks and other potential safety hazards. In the case of steel gas lines, the pipe is coated or wrapped before installation, followed by the application of CP through the use of either an impressed system or galvanic anodes as required by federal pipeline safety regulations. The CP system requires continual monitoring on regular intervals to ensure that adequate levels of current are maintained. Maintenance tasks include monitoring CP levels on metallic pipe by taking required pipe to soil reads and reading rectifiers to verify correct operation. If the CP system is found to read below protected levels, corrective action is taken by troubleshooting the CP systems to identify the location of the problem (e.g., electrically shorted meters, underground electrical contacts with other metallic structures, electrical interference, malfunctioning impressed current system, or depleted galvanic anodes). Appropriate corrective action is subsequently performed to restore the CP system to satisfactory protection levels.

This MWC relates to safety and/or reliability and/or maintenance as it includes work related to mitigating the effects of corrosion on metallic gas distribution pipelines. Corrosion of gas piping systems can cause leaks and other potential safety hazards.

MWC DN – Develop and Provide Training – The Gas Training Curriculum Development program creates new and enables significant revisions to existing training materials ensuring that the Gas Operations workforce is competent, safe, and qualified. The Training Curriculum program does not include the general maintenance or delivery of training materials.

This MWC does not relate directly to safety and/or reliability and/or maintenance.

MWC EX –Meter Protection Program (MPP) – Includes efforts to ensure that gas meter locations that do not conform to current PG&E standards and/or federal pipeline safety regulations are addressed. The program focuses on two types of non-conforming meter locations: those with inadequate protection from potential damage by vehicles; and those with inaccessible service or shutoff valves. The work to correct these non-conforming facilities generally involves one of three work activities: installing barrier posts, installing a new valve or relocating the meter set.

This MWC relates to safety and/or reliability and/or maintenance as it includes efforts to ensure that gas meter locations that do not conform to current PG&E standards and/or federal pipeline safety regulations are addressed. The MPP focuses on two types of non-conforming meter locations: those with inadequate protection from potential damage by vehicles; and those with inaccessible service or shutoff valves.

MWC FG – Operate Gas Distribution System – Includes a broad range of operations which include monitoring system pressures and flows, checking odorant intensity levels for leak detection, operating valves, regulator stations, and changing pressure recorder charts. Additionally, this program includes occasional manual operations to provide necessary capacity during peak demand periods in the morning (e.g., using a Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG) natural gas tanker to inject gas, manually opening separation valves to redirect gas, or manually bypassing regulator station equipment to flow more gas).

This MWC relates to safety and/or reliability and/or maintenance as it includes a broad range of operations to keep the system safe, such as monitoring the system pressures and flows, checking odorant intensity levels for

leak detection; operating valves and regulator stations, and changing pressure recorder charts.

MWC FH – Gas Preventive Maintenance – Includes work to comply with pipeline safety regulations that require PG&E to conduct periodic inspection and maintenance on its gas distribution system. Preventive maintenance work includes regulator station maintenance, maintenance on mains and services, distribution valve replacement, service valve replacement, atmospheric corrosion inspections, and overall gas maintenance support.

This MWC relates to safety and/or reliability and/or maintenance as it includes work to comply with pipeline safety regulations that require PG&E to conduct periodic inspection and maintenance on its gas distribution system.

MWC FI – Gas Corrective Maintenance – Includes work to repair or replace damaged or failed gas facilities. In many cases, the need for such restoration is identified during the preventive maintenance activities described in MWC FH. Corrective maintenance includes leak repair, dig-in repair, CP restoration, regulator station repair, and distribution valve repair. Below ground Grade 3 leak repairs are recorded under MWC LW – Leak Abatement.

This MWC relates to safety and/or reliability and/or maintenance as it includes work to repair or replace damaged or failed gas facilities.

MWC GF – Gas Mapping – Encompasses tracking the size, material type, location, configuration, and other essential information needed to identify thousands of miles of underground gas main and millions of gas services. Gas Mapping updates and maintains the gas distribution system maps and records.

This MWC relates to safety and/or reliability and/or maintenance as it involves tracking the size, material type, location, configuration, and other essential information needed to identify gas main and services.

MWC GG – Gas Distribution Planning and Operations Engineering – Includes local gas planning engineers modeling the gas distribution system to ensure a safe, reliable, and cost-effective supply of natural gas to customers and to ensure that the system can accommodate future load growth. By simulating changes in load demand, engineers use modeling to identify potential constraints in the system to support service reliability.

This MWC relates to safety and/or reliability and/or maintenance as it includes local gas planning engineers modeling the gas distribution system to ensure a safe, reliable, and cost effective supply of natural gas to customers and to ensure that the system can accommodate future load growth.

MWC GM – Natural Gas Fueling Facilities Operation and Maintenance (O&M) – Includes the work required to maintain and operate existing compressed natural gas (CNG) fueling facilities. PG&E operates Natural Gas Vehicles (NGV) and has over 5,000 third-party customers vehicles that use the natural gas fueling facilities. PG&E's network of natural gas fueling stations also serves as a back up to customer owned CNG fueling stations that are not available due to breakdowns or maintenance.

This MWC relates to safety and/or reliability and/or maintenance as it includes the work required to maintain and operate existing compressed natural gas fueling facilities.

MWC GZ – Gas Research and Development (R&D) – Includes work in targeted areas of gas distribution. The objectives of gas distribution research, development and demonstration are to explore new opportunities, concepts, and technologies to continue to provide safe and reliable service to customers at a lower cost, where possible.

This MWC does not relate directly to safety and/or reliability and/or maintenance.

MWC HY – Gas Meter Maintenance – The meter set is defined as the facilities between the shut-off valve (i.e., service valve and inlet valve) and service tee or meter outlet valve.

Maintenance includes:

- Corrective Maintenance work performed on meter sets greater than 1,000 CFH (Cubic Feet per Hour) and less than or equal to 1,000 CFH. Outlet Valve greater than or equal to 2 inches in diameter and less than 2 inches in diameter.
- Preventive Maintenance work performed on meter sets greater than 1,000 CFH. Preventive maintenance work includes: Differential Pressure Tests, Regulator A Inspections, Pressure Verification, Electronic Corrector Maintenance, Turbine Spin Test, Delta A Turbine and Ultra-Sonic Diagnostic Testing.

This MWC relates to safety and/or reliability and/or maintenance as it includes corrective and preventative maintenance work performed on meter sets.

MWC JQ – Gas Distribution Integrity Management Program (DIMP) – This program is mandated by Federal regulations and includes efforts to enhance gas distribution system safety by identifying risks to the gas distribution system and addressing those risks. The types of work in this MWC include development and improvements in the following areas: DIMP Program, preventative maintenance, DIMP leak surveys, operator qualifications, training, and programs including the Cross Bore Inspection Program, and Plastics Program.

This MWC relates to safety and/or reliability and/or maintenance as it includes efforts to enhance gas distribution system safety by identifying risks to the gas distribution system and addressing those risks.

MWC JV –Information Technology (IT) – Includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems, and infrastructure.

This MWC was not presented in the 2020 GRC as related directly to safety and/or reliability and/or maintenance. However, certain projects within this MWC provide support for safety and/or reliability and/or maintenance projects.

MWC LK – Gas Expense Work Requested by Others (WRO) – Gas Maintenance – Encompasses work required by tariff, third-party requests, and franchise compliance, including:

- Gas main relocations and rearrangement of gas facilities initiated by customers due to overbuilds (billable to the customer);
- Raise gas valve frame and covers to grade;
- Gas service cutout at property line;
- Provide temporary gas service that is not expected to last more than 1 year (Rule 13) (applicant pays for installation and removal costs); and
- Complete additional work above normal level of mark and locate activities as needed for third-party work. Work will normally be done at applicant's expense unless done to comply with city or county franchise agreements.

This MWC does not relate directly to safety and/or reliability and/or maintenance.

MWC OM – Operational Management – Includes labor and employee-related costs to provide supervision and management support. MWC OM also includes costs incurred by the administrative staff working for the Supervisors/Managers.

This MWC is included as a maintenance activity in accordance with Energy Division's February 12, 2019 letter to PG&E. Gas Distribution does not consider MWC OM as related directly to safety and/or reliability and/or maintenance work.

MWC OS – Operational Support – Includes labor and employee-related costs to provide services and support that are unrelated to supervision and management. Examples include Business Finance and Sourcing departments that support the LOBs.

This MWC does not relate directly to safety and/or reliability and/or maintenance.

D. MWC Descriptions – Capital

MWC 05 – Tools and Equipment – Includes the costs of miscellaneous tools and equipment. Regular expenditures are necessary to replace damaged, worn out, or obsolete tools and to ensure specialized tools are available to perform testing and other functions.

This MWC does not relate directly to safety and/or reliability and/or maintenance.

MWC 14 – Gas Pipeline Replacement Program (GPRP) – Primarily encompasses three gas distribution asset replacement programs: (1) the GPRP; (2) Copper Service Replacement Program (CSRP); and (3) Plastic Replacement Program. The GPRP targets cast iron and pre-1940 steel gas mains. PG&E uses age, materials, seismic factors, and gas leaks to identify and prioritize gas mains for replacement. In addition to gas main replacement, the program includes related service replacement and meter relocation work. CSRP was added to MWC 14 in 2006 because copper services were determined to have a similar relative risk to GPRP pipe. Subsequently, plastic was added into MWC 14 in 2012 because of increase in the relative risk of vintage plastic material such as Aldyl-A.

This MWC relates to safety and/or reliability and/or maintenance as it includes gas distribution pipe replacement and service replacement programs for safety and reliability reasons.

MWC 21 – Miscellaneous Capital – This MWC is typically used for planning purposes and accounting adjustments. For 2020, it includes Picarro units purchased and miscellaneous cancelled orders.

This MWC does not relate directly to safety and/or reliability and/or maintenance.

MWC 27 – Gas Meter Protection – Includes efforts to ensure that gas meter locations that do not conform to current PG&E standards and/or federal pipeline safety regulations are addressed. The program focuses on two types of non-conforming meter locations: those with inadequate protection from potential damage by vehicles; and those with inaccessible service or shutoff valves. The work to correct these non-conforming facilities generally involves one of three work activities: installing barrier posts, installing a new valve or relocating the meter set.

This MWC relates to safety and/or reliability and/or maintenance as it includes efforts to ensure that gas meter locations that do not conform to current PG&E standards and/or federal pipeline safety regulations are addressed. The program focuses on two types of non-conforming meter locations: those with inadequate protection from potential damage by vehicles; and those with inaccessible service or shutoff valves.

MWC 29 – Gas Distribution Customer Connections – Includes building new gas distribution systems to provide service to new customers and the costs of regulators purchased for emergency response, regulator change outs, and system upgrades.

This MWC does not relate directly to safety and/or reliability and/or maintenance.

MWC 31 – NGV Station Infrastructure – Includes keeping PG&E's natural gas fueling infrastructure safe and in compliance for PG&E's fleet and customers. This work includes: (1) CP and underground corrosion protection; (2) Upgrading stations to better serve the vehicles being produced in the market today; (3) Increasing the reliability of stations; (4) Security monitoring as required at some public access stations; and (5) Remote monitoring of stations.

This MWC relates to safety and/or reliability and/or maintenance as it includes capital work to keep PG&E's natural gas fueling infrastructure safe.

MWC 47 – Gas Distribution Capacity – Includes capacity additions to meet load growth by reinforcing the existing gas systems.

This MWC relates to safety and/or reliability and/or maintenance as it includes capacity additions to meet load growth.

MWC 50 – Gas Distribution Reliability – Includes installation or replacement of gas facilities to: improve system safety and reliability, replace aging facilities, and maintain compliance with pipeline safety regulations. Facilities replaced include mains, services, regulator stations, CP equipment, electronic chart recorders and remote CP monitoring equipment. Below ground Grade 3 leak repairs are recorded under MWC 3P – Leak Abatement.

This MWC relates to safety and/or reliability and/or maintenance as it includes installation or replacement of gas facilities to improve system safety and reliability, replace aging facilities, and maintain compliance with pipeline safety regulations.

MWC 51 – Gas Work at the Request of Others – Includes relocating gas distribution and service facilities at the request of a governmental agency or other third parties (e.g., customers and developers). This work could be due to road widening, street improvements, sewer improvements and other similar work.

This MWC does not relate directly to safety and/or reliability and/or maintenance.

MWC 52 – Gas Distribution Emergency Response – Includes work and materials required to replace damaged or failed facilities including replacement of mains and services due to gas dig-ins and external forces such as landslides and earthquakes.

This MWC relates to safety and/or reliability and/or maintenance as it includes work and materials required to replace damaged or failed facilities.

MWC 74 – Install New Gas Meters – Includes regulator replacement labor to remove and install new regulators and meters and regulators for new business connections and labor to install. The meter set is defined as the facilities between the shut-off valve (i.e., service valve and inlet valve) and service tee or meter outlet valve. Maintenance includes: (1) Compliance – Scheduled Meter Change Outs (SMC) less than or equal 1,000 CFH; (2) Compliance – Periodic Meter Change outs, every 10 years (PMC) greater

than 1,000 CFH; (3) Corrective Maintenance work with replacement of meter performed on meter sets less than or equal to 1,000 CFH and greater than 1,000 CFH; Meter outlet valve greater than or equal to 2'' diameter; (4) Meter removal (retire) less than or equal to 1,000 CFH and greater than 1,000 CFH; (5) New Business less than 400 CFH and 400 - 1,000 CFH; (6) Capital projects (i.e., ECAT Replacement); and (7) SmartMeter™ gas module replacements.

This MWC relates to safety and/or reliability and/or maintenance as it includes regulator replacement labor to remove and install new regulators and meters.

MWC 78 – Manage Buildings – Includes capital buildings projects (i.e., facility upgrades/improvements as well as new construction) for Gas Operations.

This MWC does not relate directly to safety and/or reliability and/or maintenance.

MWC 2F – Build IT Applications and Infrastructure – Includes the costs to design, develop and enhance applications, systems, and infrastructure technology solutions.

This MWC was not presented in the 2020 GRC as related directly to safety and/or reliability and/or maintenance. However, certain projects within this MWC provide support for safety and/or reliability and/or maintenance projects.

MWC 2K – Gas Distribution Replace/Convert Customer High Pressure Regulators (HPR) – Includes the replacement of gas customer HPRs or the reconstruction of gas distribution systems to eliminate the need for HPRs.

This MWC relates to safety and/or reliability and/or maintenance as it includes the replacement of gas customer HPR or the reconstruction of gas distribution systems to eliminate the need for HPRs.

MWC 4A – Gas Distribution Control Operations Assets – Includes costs associated with the installation of Supervisory Control and Data Acquisition (SCADA) devices, electronic pressure recorders (ERX), and associated field equipment. MWC 4A captures costs associated with the development of software tools to support the collection, retention, and presentation of data related to the Control Center. Capital outlays support telecommunication radio system assets to monitor and control the gas distribution network.

This MWC relates to safety and/or reliability and/or maintenance as it includes costs to support the collection, retention, and presentation of data related to the Control Center as well as support costs for telecommunication radio system assets to monitor and control the gas distribution network.

E. Comparison by MAT for Safety, Reliability, and Maintenance Work Tables

TABLE 2-3
GAS DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
1	DD	Provide Field Service	DDA	Field Service, Other	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	0.0	308.8	308.8	100.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
2	DD	Provide Field Service	DDD	Pilot Relight	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	12,515.6	9,875.7	(2,639.9)	-21.1%	177,773	117,770	(60,003)	-34%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to a reduction in customer demand resulting from COVID-19.
3	DD	Provide Field Service	DDE	Appliance Adjustments	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	959.2	800.7	(158.5)	-16.5%	12,947	8,218	(4,729)	-37%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to a reduction in customer demand resulting from COVID-19.
4	DD	Provide Field Service	DDF	Gas Fumigation	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	2,949.4	3,086.7	137.3	4.7%	37,538	28,539	(8,999)	-24%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to a reduction in customer demand resulting from COVID-19.
5	DD	Provide Field Service	DDG	Gas Leaks and Emergencies	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	17,582.6	29,424.5	11,841.9	67.4%	166,790	146,944	(19,846)	-12%	YES	YES	NO	Program expenses exceeded imputed regulatory values because of an accounting change that began recording immediate response (IR) standby time to orders directly under this MAT. In the past, these charges were allocated as unbilled overhead applied across multiple MATs.	Below variance threshold.
6	DD	Provide Field Service	DDK	Gas Start	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	5,203.0	3,794.3	(1,408.8)	-27.1%	55,581	34,317	(21,264)	-38%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to a reduction in customer demand resulting from COVID-19.
7	DD	Provide Field Service	DDL	Gas Stop	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	4,362.4	2,912.0	(1,450.5)	-33.2%	97,018	47,718	(49,300)	-51%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to a reduction in customer demand resulting from COVID-19.
8	DE	Leak Survey	DEA	Leak Survey	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	7,712.8	10,695.5	2,982.8	38.7%	543,301	572,955	29,654	5%	NO	NO	NO	Below variance threshold.	Below variance threshold.
9	DE	Leak Survey	DEB	Special Leak Survey	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	5,743.2	1,992.4	(3,750.8)	-65.3%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
10	DE	Leak Survey	DEC	Leak Downgrade, No Repair	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	2,025.2	3,123.6	1,098.4	54.2%	6,951	9,280	2,329	34%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to the increase in Leak Survey plan from the leak survey units carried forward from 2019 to 2020. See variance explanation for MAT DEF.
11	DE	Leak Survey	DED	Leak Rechecks	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	1,545.6	2,243.3	697.7	45.1%	21,430	43,604	22,174	103%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to: 1) a delay in SAP generating post repair rechecks, 2) new rechecks generated by the Can't Get In (CGI) program, 3) an increase in leak downgrade units generating additional rechecks, 4) updated leak grading procedure that defined leak grading criteria, and 5) new controls that placed more rigorous reviews on Grade 0 leak rechecks that required a second read.
12	DE	Leak Survey	DEE	Customer Calls	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	542.5	617.3	74.9	13.8%	3,624	3,298	(326)	-9%	NO	NO	NO	Below variance threshold.	Below variance threshold.
13	DE	Leak Survey	DEF	Picarro Leak Survey	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	6,048.0	13,143.7	7,095.6	117.3%	663,997	1,096,569	432,572	65%	NO	YES	YES	Program expenses exceeded imputed regulatory values due to anticipated efficiencies included in the 2020 GRC that did not materialize. In addition, contractor costs increased due to labor increases that were not previously forecast.	Actual units were higher than imputed units because over 240,000 compliance leak survey units were carried over from 2019 to 2020. In addition, more units were completed via Picarro technology based on the compliance leak survey plan.
14	DE	Leak Survey	DEG	Picarro Special Leak Survey	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	1.5	4.8	3.3	213.3%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
15	DE	Leak Survey	DEH	Gas Capacity Uprates	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	N/A	0.0	2,568.6	2,568.6	100.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.

TABLE 2-3
GAS DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
16	DE	Leak Survey	DE#	Leak Survey Support	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	709.8	752.4	42.5	6.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
17	DF	Locate and Mark	DFA	Locate and Mark	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	41,281.2	28,943.6	(12,337.6)	-29.9%	722,584	592,990	(129,594)	-18%	YES	YES	NO	Program expenses exceeded imputed regulatory values due to an increase in staffing levels (locators and Qualified Electrical Workers) mandated by the Locate and Mark OII. Contactors were onboarded to comply with OII mandates while internal locators were hired and trained.	Below variance threshold.
18	DF	Locate and Mark	DFB	Locate and Mark, Standby	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	1,755.1	163.4	(1,591.7)	-90.7%	3,919	297	(3,622)	-92%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units as a result of process improvements. These improvement were 1) Gas Resource Specialists performing quality field observations to further reduce and/or eliminate standbys that are not in conflict with PG&E's critical facilities, and 2) the new Ticket Management System (Locate App) which launched in 2019 and enhanced the onsite Field Meet criteria for locators in the field. This allowed for better onsite Field Meetings to occur with excavators further reducing the need for standbys.
19	DF	Locate and Mark	DF#	Locate and Mark, Other	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	916.3	2,658.4	1,742.1	190.1%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
20	DG	Cathodic Protection	DGA	Cathodic Protection - Monitoring	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	2,768.7	3,764.2	995.4	36.0%	76,818	86,603	9,785	13%	NO	NO	NO	Below variance threshold.	Below variance threshold.
21	DG	Cathodic Protection	DGB	Cathodic Protection - Troubleshooting	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	4,250.6	4,898.4	647.8	15.2%	6,000	12,180	6,180	103%	NO	NO	YES	Below variance threshold.	Actual troubleshooting units were higher than imputed units due to incremental finds through Cathodic Protection (MAT DGD), Isolated Steel (MAT DGE), and Unprotected Steel Main Evaluation (MAT DGF) survey work. This is a regulated workstream with compliance timelines.
22	DG	Cathodic Protection	DGC	Cathodic Protection - Rectifier Maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	474.0	714.9	240.9	50.8%	3,953	4,179	226	6%	NO	NO	NO	Below variance threshold.	Below variance threshold.
23	DG	Cathodic Protection	DGD	Cathodic Protection - Enhanced Survey	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 7	6,267.3	4,856.8	(1,410.5)	-22.5%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
24	DG	Cathodic Protection	DGD	Cathodic Protection - Enhanced Survey	Release of Gas with Ignition on Distribution Facilities - Non-Cross Bore	Mitigation - Enhanced CP Survey and Unprotected Main Evaluation	Exhibit (PG&E-3), Chapter 7	6,267.3	4,856.8	(1,410.5)	-22.5%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
25	DG	Cathodic Protection	DGE	Electrically Connected Isolated Steel Services	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 7	2,751.4	3,827.3	1,075.9	39.1%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
26	DG	Cathodic Protection	DGE	Electrically Connected Isolated Steel Services	Release of Gas with Ignition on Distribution Facilities - Non-Cross Bore	Mitigation - ECISS Program	Exhibit (PG&E-3), Chapter 7	2,751.4	3,827.3	1,075.9	39.1%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27	DG	Cathodic Protection	DGF	Unprotected Steel Main Evaluation	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 7	0.0	26.2	26.2	100.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
28	DG	Cathodic Protection	DGF	Unprotected Steel Main Evaluation	Release of Gas with Ignition on Distribution Facilities - Non-Cross Bore	Mitigation - Enhanced CP Survey and Unprotected Main Evaluation	Exhibit (PG&E-3), Chapter 7	0.0	26.2	26.2	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
29	DG	Cathodic Protection	DGG	Install Casing Test Stations	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	786.7	1,285.3	498.6	63.4%	360	17	(343)	-95%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to a management decision to scale back the program in 2020. This decision was influenced by permit delays, COVID-19 restrictions, and a PG&E safety shut-down for all exothermic weld operations.

TABLE 2-3
GAS DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
30	DG	Cathodic Protection	DGH	Casing Short Mitigation < 100 Feet	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	2,865.6	4,239.5	1,373.9	47.9%	83	56	(27)	-33%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to a suspension of work due to COVID-19 and construction resource constraints following resumption of work.
31	DG	Cathodic Protection	DGI	Casing Monitoring without Lead	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	6.4	143.2	136.8	2150.2%	32	361	329	1028%	NO	NO	YES	Below variance threshold.	Actual casing without leads monitoring units were higher than imputed units due to a higher than forecast casing find rate from the Enhanced Cathodic Protection Survey (MAT DGD) and delays in casing test station installation (MAT DGG).
32	DG	Cathodic Protection	DG#	Cathodic Protection, Other	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	0.0	198.6	198.6	100.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
33	EX	Meter Protection Program	EXA	Meter Protection Program Inspections	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	0.2	0.9	0.8	466.7%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
34	EX	Meter Protection Program	EXB	Meter Protection Program Protections	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	8,198.0	11,471.1	3,273.1	39.9%	9,079	16,429	7,350	81%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to targeting Abnormal Operating Conditions (AOC) remediation work in 2020. Effective bundling and execution improved unit cost, which also allowed for more units to be completed in 2020.
35	EX	Meter Protection Program	EXC	Meter Protection Program Service Valves	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	23.7	13.2	(10.5)	-44.3%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
36	FG	Operate Gas Distribution System	FGA	Gas Distribution Control Center Operations	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 9	7,689.1	7,649.9	(39.2)	-0.5%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
37	FG	Operate Gas Distribution System	FGB [a]	Manual Field Operations, Mains and Services	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 9	1,052.8	956.7	(96.1)	-9.1%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
38	FG	Operate Gas Distribution System	FGC [a]	Manual Field Operations, Other	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 9	245.5	161.4	(84.1)	-34.3%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
39	FG	Operate Gas Distribution System	FG#	Gas Distribution Control Center Operations, Other	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 9	0.0	(0.5)	(0.5)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
40	FH	Gas Preventive Maintenance	FHA	Preventative Maintenance, Gas Mains	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	1,200.6	1,515.7	315.1	26.2%	265	368	103	39%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to additional volume of emergent work identified in 2020.
41	FH	Gas Preventive Maintenance	FHB [a]	Preventive Maintenance, Gas Regulator Station	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	3,237.9	4,143.4	905.5	28.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
42	FH	Gas Preventive Maintenance	FHC [a]	Preventative Maintenance, Gas Farm Tap	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	254.0	102.4	(151.6)	-59.7%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
43	FH	Gas Preventive Maintenance	FHE	Preventative Maintenance, Gas Services	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	3,683.1	4,869.7	1,186.6	32.2%	2,458	2,429	(29)	-1%	NO	NO	NO	Below variance threshold.	Below variance threshold.
44	FH	Gas Preventive Maintenance	FHG [a]	Preventative Maintenance, Gas Valves	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	1,689.6	1,613.3	(76.3)	-4.5%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
45	FH	Gas Preventive Maintenance	FHI	Corrective Maintenance, Gas Service Valves	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	2,237.3	5,447.4	3,210.1	143.5%	18,417	27,587	9,170	50%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to AOC tags identified through AOC inspections, the leak survey program, and work previously identified as service replacement completed under maintenance.

TABLE 2-3
GAS DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
46	FH	Gas Preventive Maintenance	FHJ	Gas Non-Recurring Projects	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	2,857.8	7,801.2	4,943.4	173.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
47	FH	Gas Preventive Maintenance	FHK	Atmospheric Corrosion Inspections	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	1,035.0	499.6	(535.3)	-51.7%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
48	FH	Gas Preventive Maintenance	FHL	Atmospheric Corrosion Main Repairs	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	245.1	544.1	299.0	122.0%	100	28	(72)	-72%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units primarily due to a find rate of spans requiring mitigation that was below the average annual span repair rate presented in the 2020 GRC.
49	FH	Gas Preventive Maintenance	FHM	Atmospheric Corrosion Service Repairs	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	400.8	1,168.7	767.8	191.6%	550	1,845	1,295	235%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units primarily due to a find rate of steel risers requiring atmospheric corrosion mitigation that exceeded the average annual find rate presented in the 2020 GRC. The risers were primarily identified through the Electrically Connected Isolated Steel (MAT DGE) program. This is a regulated workstream, therefore, mitigation is not optional.
50	FH	Gas Preventive Maintenance	FHN	Atmospheric Corrosion Distribution Regulator Station Repair	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	577.7	787.5	209.9	36.3%	34	43	9	26%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to a find rate of stations requiring atmospheric corrosion mitigation that exceeded average annual station repair rate presented in the 2020 GRC. This is a regulated workstream, therefore, mitigation is not optional.
51	FH	Gas Preventive Maintenance	FHO [a]	Preventative Maintenance, SCADA	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	416.0	1,062.4	646.4	155.4%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
52	FH	Gas Preventive Maintenance	FHP [a]	Corrective Maintenance, SCADA	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	332.1	637.8	305.7	92.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
53	FH	Gas Preventive Maintenance	FHQ	Overpressure Protection Enhancements Program	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 5	3,160.9	781.3	(2,379.5)	-75.3%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
54	FH	Gas Preventive Maintenance	FHQ	Overpressure Protection Enhancements Program	Measurement and Control Failure - Release of Gas with Ignition Downstream	Mitigation - Station OPP Enhancements	Exhibit (PG&E-3), Chapter 5	3,160.9	781.3	(2,379.5)	-75.3%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55	FH	Gas Preventive Maintenance	FH#	Preventative Maintenance, Other	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	1,147.5	815.8	(331.7)	-28.9%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
56	FI	Gas Corrective Maintenance	FIB [a]	Corrective Maintenance, Gas Regulator Station	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	4,553.1	1,950.8	(2,602.3)	-57.2%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
57	FI	Gas Corrective Maintenance	FIC [a]	Corrective Maintenance, Gas Farm Tap	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	164.0	427.2	263.3	160.5%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
58	FI	Gas Corrective Maintenance	FIF [a]	Corrective Maintenance, Gas Main Valve	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	592.4	420.8	(171.6)	-29.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
59	FI	Gas Corrective Maintenance	FIG/LWG [b]	Main Leak Repair	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	19,754.7	26,021.7	6,267.0	31.7%	3,059	3,211	152	5%	NO	YES	NO	Program costs exceeded imputed regulatory values because of increased unit costs and because more units were completed due to higher leak find rates. Unit costs were higher due to increases in labor, paving, permitting, and traffic control costs in addition to spoils overhead applied.	Below variance threshold.
60	FI	Gas Corrective Maintenance	FIH	Service Leak Repair, Above Ground	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	5,712.7	4,100.6	(1,612.2)	-28.2%	25,087	9,036	(16,051)	-64%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units as a result of changes to Leak Grading Procedure TD-4110P-09 that shifted above ground riser thread gradable leaks to MAT FIS as non-gradable leaks.

TABLE 2-3
GAS DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
61	FI	Gas Corrective Maintenance	FII	Corrective Maintenance, Cathodic Protection	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	2,944.8	4,566.7	1,621.9	55.1%	1,701	2,245	544	32%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units primarily due to a higher than forecast find rate in the Enhanced Cathodic Protection Survey (MAT DGD) and Electrically Connoted Isolated Steel (MAT DGE) programs. This is a regulated workstream, therefore, mitigation is not optional.
62	FI	Gas Corrective Maintenance	FIJ	Main Dig-in Repair	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	923.9	1,052.0	128.2	13.9%	255	252	(3)	-1%	NO	NO	NO	Below variance threshold.	Below variance threshold.
63	FI	Gas Corrective Maintenance	FIK	Service Dig-in Repair	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	561.7	950.0	388.3	69.1%	1,504	1,537	33	2%	NO	NO	NO	Below variance threshold.	Below variance threshold.
64	FI	Gas Corrective Maintenance	FIM	Major Event	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	0.0	493.7	493.7	100.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
65	FI	Gas Corrective Maintenance	FIO	Encroachment Program	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	595.9	574.9	(21.0)	-3.5%	62	60	(2)	-3%	NO	NO	NO	Below variance threshold.	Below variance threshold.
66	FI	Gas Corrective Maintenance	FIP/LWH [(b)]	Service Leak Repair, Below Ground	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	13,936.3	22,731.1	8,794.8	63.1%	5,419	6,092	673	12%	NO	YES	NO	Program costs exceeded imputed regulatory values because of increased unit costs and more units were completed due to higher leak find rates. Unit costs were higher due to increases in labor, paving, permitting, and traffic control costs in addition to spoils overhead applied.	Below variance threshold.
67	FI	Gas Corrective Maintenance	FIQ	Atmospheric Corrosion (AC) Meter Inspection	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	2,063.1	6,885.7	4,822.6	233.8%	200,000	423,954	223,954	112%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to: 1) leak survey work was carried forward from 2019 into 2020, and 2) more AC Can't Get line (CGI) units completed than planned, both of which resulted in over 215,000 additional inspections being completed in 2020.
68	FI	Gas Corrective Maintenance	FIR	Tee-Cap Replacement Program	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	2,070.5	1,534.5	(536.0)	-25.9%	1,165	1,195	30	3%	NO	NO	NO	Below variance threshold.	Below variance threshold.
69	FI	Gas Corrective Maintenance	FIS	Leak Survey Meter Repair	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	5,100.4	6,952.0	1,851.6	36.3%	64,978	64,166	(812)	-1%	NO	NO	NO	Below variance threshold.	Below variance threshold.
70	FI	Gas Corrective Maintenance	FI#	Corrective Maintenance, Other	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	1,277.9	3,643.0	2,365.1	185.1%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
71	GF	Gas Mapping	GFO	Mapping Support	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 11	4,268.9	3,393.9	(874.9)	-20.5%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
72	GG	Gas Distribution Planning and Operations Engineering	GGA	Gas System Planning	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 9	4,665.7	5,543.9	878.2	18.8%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
73	GG	Gas Distribution Planning and Operations Engineering	GG#	Gas Distribution Portfolio Management and Engineering	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 9	1,598.9	2,302.4	703.5	44.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
74	GM	Natural Gas Fueling Facilities O&M	GMC	Gas Distribution Compressed Natural Gas Station O&M	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 5 (MWC Level)	3,763.9	3,997.7	233.7	6.2%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
75	GM	Natural Gas Fueling Facilities O&M	GM#	Gas Distribution Compressed Natural Gas Station O&M	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 5 (MWC Level)	10.3	(0.5)	(10.8)	-105.3%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.

TABLE 2-3
GAS DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
76	HY	Gas Meter Maintenance	HYI	Meter Set Atmospheric Corrosion Remediation	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	1,828.4	2,182.2	353.8	19.3%	40,000	34,069	(5,931)	-15%	NO	NO	NO	Below variance threshold.	Below variance threshold.
77	HY	Gas Meter Maintenance	HY#	Meter Set Maintenance, Other	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	0.0	(0.3)	(0.3)	100.0%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
78	JQ	Gas Distribution Integrity Management Program	JQA	DIMP Leak Survey	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	668.5	889.5	221.0	33.1%	54,500	32,388	(22,112)	-41%	NO	NO	YES	Below variance threshold.	Actual units were below imputed units due to a shift in base workplan units of measure. In 2020, the base workplan shifted from actual services to main-only surveys (miles), resulting in lower units as compared to the 2020 GRC.
79	JQ	Gas Distribution Integrity Management Program	JQC	Dig-In Reduction Team	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	2,479.6	3,371.0	891.4	35.9%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
80	JQ	Gas Distribution Integrity Management Program	JQD	DIMP Emergent Work	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 4	2,976.4	2,940.6	(35.8)	-1.2%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
81	JQ	Gas Distribution Integrity Management Program	JQD	DIMP Emergent Work	Release of Gas with Ignition on Distribution Facilities - Non-Cross Bore	Mitigation - Curb Valve Replacements	Exhibit (PG&E-3), Chapter 4	1,477.0	253.6	(1,223.4)	-82.8%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
82	JQ	Gas Distribution Integrity Management Program	JQE	Plastic Program	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	312.1	147.1	(165.0)	-52.9%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
83	JQ	Gas Distribution Integrity Management Program	JQG	Fitting Mitigation Program	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	994.7	690.7	(303.9)	-30.6%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
84	JQ	Gas Distribution Integrity Management Program	JQK	Cross Bore Program	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 4	29,878.0	31,752.1	1,874.1	6.3%	36,667	16,675	(19,992)	-55%	NO	NO	YES	Below variance threshold.	Imputed units are based on a ratio between Unable to Access (UTA) units and non-UTA units. For 2020, PG&E completed 16,675 cross-bore inspection units of which 4,113 were UTAs and 12,562 were non-UTAs. Using the 2020 GRC settlement formula, if 4,113 UTAs are performed, the imputed number of non-UTA units is 32,554. Thus PG&E performed 19,992 fewer non-UTA units than imputed. Drivers for this are: 1) Work performed in San Francisco was more complex and took longer to complete due to infrastructure, pipe condition, permitting requirements, and 2) Targeted higher risk work in San Francisco before addressing non-UTAs in other areas.
85	JQ	Gas Distribution Integrity Management Program	JQK	Cross Bore Program	Release of Gas with Ignition on Distribution Facilities - Cross Bore	Mitigation - Cross-Bore Program	Exhibit (PG&E-3), Chapter 4	29,878.0	31,752.1	1,874.1	6.3%	36,667	16,675	(19,992)	-55%	N/A	N/A	N/A	N/A	N/A
86	JQ	Gas Distribution Integrity Management Program	JQL	DIMP Program Management	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	4,233.7	4,301.2	67.5	1.6%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
87	OM	Operational Management	OM#	Operational Management	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 2	17,023.5	14,363.0	(2,660.6)	-15.6%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.

(a) The forecast for this MAT was non-unitized in the 2020 GRC, and therefore, PG&E does not have imputed adopted units. A count of the operations completed is captured in SAP, however, the operations do not equate to units because they encompass a variety of different O&M activities. Therefore, this information is not included in this table.

(b) Includes below ground grade 3 leak repairs recorded under Leak Abatement MWC LW. In 2020, approximately $109.8 under MWC LW will be realigned to MWC FI. The correction will be captured as part of 2021 recorded data. In addition, 14 units recorded under MWC LW will be realigned to MWC FI.

TABLE 2-4
GAS DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
1	14	Gas Pipeline Replacement Program	14A	Gas Pipeline Replacement Program	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	123,086.5	113,384.6	(9,701.9)	-7.9%	182,456	128,727	(53,729)	-29%	NO	NO	YES	Below variance threshold.	Actual units were below imputed units due to reprioritization of work and work reduced due to emergent funding mainly needed for the Copper Service Program and some emergent fusion failure work in 2020. Additionally, due to COVID-19, there were impacts to work being shut down for workforce safety.
2	14	Gas Pipeline Replacement Program	14B	Copper Service Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	0.0	38,805.7	38,805.7	100.0%	0	1,183	1,183	100%	YES	YES	YES	Program expenditures exceeded imputed regulatory values because there was no forecast provided in the 2020 GRC for MAT 14B. The Copper Services Program was assumed to be complete in 2019. Through a records review post 2020 GRC filling, additional Copper Services were discovered that required replacement. Reprioritization of other programs was required to fund this work.	Actual units were higher than imputed units because there was no forecast provided in the 2020 GRC for MAT 14B. The Copper Services Program was assumed to be complete in 2019. Through a records review post 2020 GRC filling, additional Copper Services were discovered that required replacement.
3	14	Gas Pipeline Replacement Program	14D	Plastic Pipe Replacement Program	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	330,291.6	268,269.6	(62,022.0)	-18.8%	607,201	461,685	(145,516)	-24%	YES	NO	YES	Program expenditures were below imputed regulatory values due to the following programmatic impacts in 2020: 1) delay related to developing resource strategy in order to ramp up replacement in future years to meet the 2020 GRC commitment, 2) partial funding shift to emergent Copper Services work, and 3) COVID-19 impact which caused work completed to be less than planned. Expenditure shifts were partially offset by higher unit costs than planned.	Actual units were below imputed units due to the following programmatic impacts in 2020: 1) delay related to developing resource strategy in order to ramp up replacement in future years to meet the 2020 GRC commitment, 2) partial funding shift to emergent Copper Services work, and 3) COVID-19 which impacted projects to carry forward into 2021.
4	27	Gas Meter Protection	27A	Meter Protection-Capital	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	21,603.0	1,818.5	(19,784.5)	-91.6%	759	66	(693)	-91%	NO	YES	YES	Program expenditures were below imputed regulatory values because less units were performed based on a lower conversion rate from the expense Meter Protection MAT EXB materializing.	Actual units were below imputed units due to a lower conversion rate from the expense Meter Protection MAT EXB materializing.
5	2K	Gas Distribution Replace/Convert Customer HPRs	2KA	Customer HPR Main	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 5 (MWC Level)	0.0	22,780.5	22,780.5	100.0%	0	85	85	100%	YES	YES	YES	See MWC level explanation presented in 2K#.	See MWC level explanation presented in 2K#.
6	2K	Gas Distribution Replace/Convert Customer HPRs	2KA	Customer HPR Main	Measurement and Control Failure - Release of Gas with Ignition Downstream	Mitigation - HPR Replacement	Exhibit (PG&E-3), Chapter 5 (MWC Level)	0.0	22,780.5	22,780.5	100.0%	0	85	85	100%	N/A	N/A	N/A	N/A	N/A
7	2K	Gas Distribution Replace/Convert Customer HPRs	2KB	Customer HPR Station Conversion to District Regulator Station	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 5 (MWC Level)	0.0	1,462.1	1,462.1	100.0%	0	5	5	100%	NO	NO	YES	Below variance threshold.	See MWC level explanation presented in 2K#.
8	2K	Gas Distribution Replace/Convert Customer HPRs	2KB	Customer HPR Station Conversion to District Regulator Station	Measurement and Control Failure - Release of Gas with Ignition Downstream	Mitigation - HPR Replacement	Exhibit (PG&E-3), Chapter 5 (MWC Level)	0.0	1,462.1	1,462.1	100%	0	5	5	100%	N/A	N/A	N/A	N/A	N/A
9	2K	Gas Distribution Replace/Convert Customer HPRs	2KC	Customer HPR Replacement	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 5 (MWC Level)	0.0	22,806.9	22,806.9	100.0%	0	138	138	100%	YES	YES	YES	See MWC level explanation presented in 2K#.	See MWC level explanation presented in 2K#.
10	2K	Gas Distribution Replace/Convert Customer HPRs	2KC	Customer HPR Replacement	Measurement and Control Failure - Release of Gas with Ignition Downstream	Mitigation - HPR Replacement	Exhibit (PG&E-3), Chapter 5 (MWC Level)	0.0	22,806.9	22,806.9	100%	0	138	138	100%	N/A	N/A	N/A	N/A	N/A

TABLE 2-4
GAS DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
11	2K	Gas Distribution Replace/Convert Customer HPRs	2K#	Gas Distribution Replace/Convert Customer High Pressure Regulators (HPR)	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 5 (MWC Level)	58,998.1	0.0	(58,998.1)	-100.0%	336	228	(108)	-32%	YES	YES	YES	The 2020 actual capital expenditure total for the HPR Station Program in MWC 2K is $47,049.5. The High Pressure Regulator Station Program expenditures were below imputed regulatory values due to: 1) construction delays caused by COVID-19, such as readiness activities that required field job walks, and 2) several HPR projects being placed on hold in order to review the larger gas system and allow PG&E to move forward with the best work for the system (for example: downrating a transmission line and transferring HPR customers to distribution rather than rebuilding an HPR).	The total 2020 actual units for the HPR Station Program in MWC 2K is 228. The High Pressure Regulator Station Program actual units were below imputed units due to: 1) construction delays caused by COVID-19, such as readiness activities that required field job walks, and 2) several HPR projects being placed on hold in order to review the larger gas system and allow PG&E to move forward with the best work for the system (for example: downrating a transmission line and transferring HPR customers to distribution rather than rebuilding a HPR).
12	2K	Gas Distribution Replace/Convert Customer HPRs	2K#	Gas Distribution Replace/Convert Customer High Pressure Regulators (HPR)	Measurement and Control Failure - Release of Gas with Ignition Downstream	Mitigation - HPR Replacement	Exhibit (PG&E-3), Chapter 5 (MWC Level)	58,998.1	0.0	(58,998.1)	-100%	336	228	(108)	-32%	N/A	N/A	N/A	N/A	N/A
13	31	Natural Gas Vehicles (NGV) Station Infrastructure	31A	CNG Stations	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 5 (MWC Level)	4,064.7	4,698.2	633.5	15.6%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
14	47	Gas Distribution Capacity	47B	Gas Capacity, Mains	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 9	30,716.1	31,397.8	681.7	2.2%	49,089	45,918	(3,171)	-6%	NO	NO	NO	Below variance threshold.	Below variance threshold.
15	47	Gas Distribution Capacity	47C	Gas Capacity, Regulator Station	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 9	7,409.3	3,627.0	(3,782.4)	-51.0%	6	3	(3)	-50%	NO	NO	YES	Below variance threshold.	Actual units were below imputed units due to not enough new load to necessitate a change in regulation.
16	47	Gas Distribution Capacity	47D	Gas Capacity, Replace Regulator Station Component	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 9	482.6	364.9	(117.7)	-24.4%	10	7	(3)	-30%	NO	NO	YES	Below variance threshold.	Actual units were below imputed units due to not enough new load to necessitate a change in regulation.
17	47	Gas Distribution Capacity	47F	Gas Capacity, Other Enhancements	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 9	286.4	3.9	(282.5)	-98.6%	0	0	0	0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
18	4A	Gas Distribution Control Operations Assets	4AA	Reg Station Monitor and Control	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 9	0.0	(337.3)	(337.3)	100.0%	0	0	0	0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
19	4A	Gas Distribution Control Operations Assets	4AA	Regulator Station Monitor and Control	Measurement and Control Failure - Release of Gas with Ignition Downstream [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	0.0	(337.3)	(337.3)	100%	0	0	0	0%	N/A	N/A	N/A	N/A	N/A
20	4A	Gas Distribution Control Operations Assets	4AA	Regulator Station Monitor and Control	Measurement and Control Failure - Release of Gas with Ignition at M&C Facility [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	0.0	(337.3)	(337.3)	100%	0	0	0	0%	N/A	N/A	N/A	N/A	N/A
21	4A	Gas Distribution Control Operations Assets	4AB	Regulator Station Monitoring	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 9	5,489.0	44.4	(5,444.7)	-99.2%	0	0	0	0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
22	4A	Gas Distribution Control Operations Assets	4AB	Regulator Station Monitoring	Measurement and Control Failure - Release of Gas with Ignition Downstream [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	5,489.0	44.4	(5,444.7)	-99.2%	0	0	0	0%	N/A	N/A	N/A	N/A	N/A

TABLE 2-4
GAS DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
23	4A	Gas Distribution Control Operations Assets	4AB	Regulator Station Monitoring	Measurement and Control Failure - Release of Gas with Ignition at M&C Facility [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	5,489.0	44.4	(5,444.7)	-99.2%	0	0	0	0%	N/A	N/A	N/A	N/A	N/A
24	4A	Gas Distribution Control Operations Assets	4AC	Main Monitor	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 9	688.1	(0.5)	(688.6)	-100.1%	0	0	0	0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
25	4A	Gas Distribution Control Operations Assets	4AC	Main Monitor	Measurement and Control Failure - Release of Gas with Ignition Downstream [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	688.1	(0.5)	(688.6)	-100%	0	0	0	0%	N/A	N/A	N/A	N/A	N/A
26	4A	Gas Distribution Control Operations Assets	4AC	Main Monitor	Measurement and Control Failure - Release of Gas with Ignition at M&C Facility [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	688.1	(0.5)	(688.6)	-100%	0	0	0	0%	N/A	N/A	N/A	N/A	N/A
27	4A	Gas Distribution Control Operations Assets	4AF	Install ERX Pressure Monitoring Device	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 9	829.5	1,203.6	374.1	45.1%	28	31	3	11%	NO	NO	NO	Below variance threshold.	Below variance threshold.
28	4A	Gas Distribution Control Operations Assets	4AF	Install ERX Pressure Monitoring Device	Measurement and Control Failure - Release of Gas with Ignition Downstream [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	829.5	1,203.6	374.1	45.1%	28	31	3	11%	N/A	N/A	N/A	N/A	N/A
29	4A	Gas Distribution Control Operations Assets	4AF	Install ERX Pressure Monitoring Device	Measurement and Control Failure - Release of Gas with Ignition at M&C Facility [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	829.5	1,203.6	374.1	45.1%	28	31	3	11%	N/A	N/A	N/A	N/A	N/A
30	4A	Gas Distribution Control Operations Assets	4AK	Reg Stat Mntr Sngle No Flow-3	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 9	6,396.6	899.8	(5,496.8)	-85.9%	0	0	0	0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
31	4A	Gas Distribution Control Operations Assets	4AK	Reg Stat Mntr Sngle No Flow-3	Measurement and Control Failure - Release of Gas with Ignition Downstream [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	6,396.6	899.8	(5,496.8)	-85.9%	0	0	0	0%	N/A	N/A	N/A	N/A	N/A
32	4A	Gas Distribution Control Operations Assets	4AK	Reg Stat Mntr Sngle No Flow-3	Measurement and Control Failure - Release of Gas with Ignition at M&C Facility [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	6,396.6	899.8	(5,496.8)	-85.9%	0	0	0	0%	N/A	N/A	N/A	N/A	N/A
33	4A	Gas Distribution Control Operations Assets	4AL	Reg Stat Mntr Dual Flow-3	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 9	14,890.7	(6.4)	(14,897.0)	-100.0%	0	0	0	0%	NO	YES	NO	Program expenditures were below imputed regulatory values because the 2020 GRC presented the recorded and forecast costs formerly shown under 10 separate MATs (4AA, 4AB, 4AC, 4AE, 4AH, 4AI, 4AJ, 4AK, 4AL, and 4AM) under a single MAT 4AM. Additionally, there was order cleanup performed in 2020. See the variance explanation in MAT 4AM below.	Below variance threshold.

TABLE 2-4
GAS DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
34	4A	Gas Distribution Control Operations Assets	4AL	Reg Stat Mntr Dual Flow-3	Measurement and Control Failure - Release of Gas with Ignition Downstream [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	14,890.7	(6.4)	(14,897.0)	-100.0%	0	0	0	0%	N/A	N/A	N/A	N/A	N/A
35	4A	Gas Distribution Control Operations Assets	4AL	Reg Stat Mntr Dual Flow-3	Measurement and Control Failure - Release of Gas with Ignition at M&C Facility [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	14,890.7	(6.4)	(14,897.0)	-100.0%	0	0	0	0%	N/A	N/A	N/A	N/A	N/A
36	4A	Gas Distribution Control Operations Assets	4AM	Install RTU Pressure Monitoring Device	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 9	916.6	26,018.1	25,101.5	2738.6%	122	95	(27)	-22%	YES	YES	YES	The 2020 GRC presented the recorded and forecast costs formerly shown under 10 separate MATs (4AA, 4AB, 4AC, 4AE, 4AH, 4AI, 4AJ, 4AK, 4AL, and 4AM) under a single MAT 4AM. The consolidated imputed adopted amount for these MATs is $28,831.0 as compared to the total 2020 actuals of $26,618.1. The difference of which is below the variance threshold.	Actual units were below imputed units because units were reduced in 2020 to accommodate production losses in Q1 and Q2 due to work being stopped until COVID-19 protocols were in place to work safely. It was not feasible to make up the lost units in 2020.
37	4A	Gas Distribution Control Operations Assets	4AM	Install RTU Pressure Monitoring Device	Measurement and Control Failure - Release of Gas with Ignition Downstream [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	916.6	26,018.1	25,101.5	2738.6%	122	95	(27)	-22%	N/A	N/A	N/A	N/A	N/A
38	4A	Gas Distribution Control Operations Assets	4AM	Install RTU Pressure Monitoring Device	Measurement and Control Failure - Release of Gas with Ignition at M&C Facility [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	916.6	26,018.1	25,101.5	2738.6%	122	95	(27)	-22%	N/A	N/A	N/A	N/A	N/A
39	4A	Gas Distribution Control Operations Assets	4A#	SCADA Support	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 9	493.2	(7.1)	(500.3)	-101.4%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
40	4A	Gas Distribution Control Operations Assets	4A#	SCADA Support	Measurement and Control Failure - Release of Gas with Ignition Downstream [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	493.2	(7.1)	(500.3)	-101.4%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
41	4A	Gas Distribution Control Operations Assets	4A#	SCADA Support	Measurement and Control Failure - Release of Gas with Ignition at M&C Facility [(a)]	SCADA Visibility-Distribution [(a)]	Exhibit (PG&E-3), Chapter 9	493.2	(7.1)	(500.3)	-101.4%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
42	50	Gas Distribution Reliability	50A	Reliability Main Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	46,254.3	66,945.1	20,690.9	44.7%	78,195	101,459	23,264	30%	YES	YES	YES	Program expenditures exceeded imputed regulatory values primarily due to higher unit costs for projects in more densely populated areas and partially driven by a higher volume completion.	Actual units were higher than imputed units primarily due to emergent projects in 2020.
43	50	Gas Distribution Reliability	50B	Reliability Service Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	9,755.3	10,967.7	1,212.4	12.4%	494	431	(63)	-13%	NO	NO	NO	Below variance threshold.	Below variance threshold.
44	50	Gas Distribution Reliability	50C	Gas Regulator Station Rebuilds	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 5	40,749.7	54,505.6	13,755.8	33.8%	33	22	(11)	-33%	NO	YES	YES	Program expenditures exceeded imputed regulatory values due to COVID-19 and wildfires resulting in excessive shoring and other rental costs. In addition, the adopted imputed unit cost was lower than the 5 year historical average and does not reflect increase in unit costs attributable to factors such as design changes, station location, construction constraints and local cities requirements.	Actual units were below imputed units due to COVID-19 shutdown related delays and wildfires. Many projects lost either resources or a sufficient window of time to allow work to be executed prior to winter gas constraints which resulted in executing fewer than anticipated units. In addition, PG&E's review of overall gas system needs resulted in opportunities for deactivating some stations instead of rebuilding which resulted in some unit reductions.

TABLE 2-4
GAS DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
45	50	Gas Distribution Reliability	50D/50Q [b]	CP Systems	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	9,633.3	10,000.9	367.6	3.8%	72	129	57	79%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units because the 2020 GRC only forecast capital casing mitigation in MAT 50D and did not anticipate RMU replacements, capital atmospheric corrosion mitigations, or rectifier replacements. The 2020 actual units consist of 61 rectifier replacements, 6 atmospheric corrosion mitigations of spans, 12 RMU replacements, and 50 casing mitigations.
46	50	Gas Distribution Reliability	50E	Reliability Gas Valve Replacement	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 4	13,382.0	10,295.3	(3,086.7)	-23.1%	197	184	(13)	-7%	NO	NO	NO	Below variance threshold.	Below variance threshold.
47	50	Gas Distribution Reliability	50E	Reliability Gas Valve Replacement	Release of Gas with Ignition on Distribution Facilities - Non-Cross Bore	Mitigation - New Valve Installation	Exhibit (PG&E-3), Chapter 4	6,777.0	6,369.6	(407.4)	-6.0%	100	112	112	12%	N/A	N/A	N/A	N/A	N/A
48	50	Gas Distribution Reliability	50F	Reliability Gas Other Equipment Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	951.0	404.1	(546.9)	-57.5%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
49	50	Gas Distribution Reliability	50G/3PB [c]	Leak Management - Simple Service Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	24,450.8	14,130.6	(10,320.2)	-42.2%	1,569	973	(596)	-38%	NO	YES	YES	Program expenditures were below imputed regulatory values because less actual emergent service replacements materialized than expected. The forecast was based on an average conversion rate from a below ground leak to a full service replacement. In most instances, it is not known if the service will be replaced until the leak is exposed and the source is determine to be on the service.	Actual units were below imputed units because less actual emergent service replacements materialized than expected. The forecast was based on an average conversion rate from a below ground leak to a full service replacement. In most instances, it is not known if the service will be replaced until the leak is exposed and the source is determined to be on the service.
50	50	Gas Distribution Reliability	50H	Reliability, Cut-Off Idle Gas Service	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	4,825.5	6,546.0	1,720.5	35.7%	566	604	38	7%	NO	NO	NO	Below variance threshold.	Below variance threshold.
51	50	Gas Distribution Reliability	50I	Reliability Deactivation Only, Main, Regulator, Valves	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	11,950.6	5,233.3	(6,717.3)	-56.2%	N/A	N/A	N/A	N/A	NO	NO	NO	Below variance threshold.	Below variance threshold.
52	50	Gas Distribution Reliability	50J	Encroachment Program	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 4	18,813.7	6,773.4	(12,040.3)	-64.0%	739	312	(427)	-58%	NO	YES	YES	Program expenditures were lower than imputed regulatory due to fewer encroachments (overbuilds) and mobile home park services identified than forecast.	Actual units were lower than imputed units due to fewer encroachments (overbuilds) and mobile home park services identified than forecast.
53	50	Gas Distribution Reliability	50K	Emergent Leaking Main Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	6,642.1	3,329.8	(3,312.4)	-49.9%	11,289	2,709	(8,580)	-76%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to less actual emergent main replacements materializing than what was forecast. MAT 50K is leaking main replacement greater than 100 feet. The units are captured in 1 foot increments, therefore, on an annual basis the total units captured depend on the size of the project and the total footage replaced. As projects are identified, they are reviewed by engineering and DIMP to review current main replacement projects and a determination is made on approving the projects.
54	50	Gas Distribution Reliability	50L	Gas Regulator Stations Component Rebuilds	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 5	11,977.2	10,024.0	(1,953.1)	-16.3%	148	136	(12)	-8%	NO	NO	NO	Below variance threshold.	Below variance threshold.
55	50	Gas Distribution Reliability	50M/3PC [c]	Leak Management - Complex Service Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	6,741.2	417.4	(6,323.8)	-93.8%	427	28	(399)	-93%	NO	NO	YES	Below variance threshold.	Actual units were below imputed units because less actual emergent service replacements materialized than expected. The forecast was based on an average conversion rate from a below ground leak to a full service replacement. In most instances, it is not known if the service will be replaced until the leak is exposed and the source is determined to be on the service.

TABLE 2-4
GAS DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
56	50	Gas Distribution Reliability	50N	Overpressure Protection Enhancements Program	SRM Total	SRM Total	Exhibit (PG&E-3), Chapter 5	13,652.3	11,503.3	(2,149.0)	-15.7%	197	116	(81)	-41%	NO	NO	YES	Below variance threshold.	Actual units were below imputed units due to COVID-19 shutdown related delays. Q1 and Q2 unit production was stopped until protocols were put in place to work safely and it was not feasible to catch up on the missed units before the end of the year.
57	50	Gas Distribution Reliability	50N	Overpressure Protection Enhancements Program	Measurement and Control Failure - Release of Gas with Ignition Downstream	Mitigation - Station OPP Enhancements	Exhibit (PG&E-3), Chapter 5	13,652.3	11,503.3	(2,149.0)	(0.2)	197.0	116	(81.0)	(0.4)	N/A	N/A	N/A	N/A	N/A
58	50	Gas Distribution Reliability	50P	Cathodic Protection System - New/Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 7	8,708.5	19,117.0	10,408.5	119.5%	115	75	(40)	-35%	NO	YES	YES	Program expenditures exceeded imputed regulatory values due to a higher unit cost than forecast in the 2020 GRC. PG&E continues to experience increased costs associated with the conversion of this workstream to contractors.	Actual units were below imputed units to higher costs per unit. Additionally, production for certain projects had to be halted which prevented completion based on renewing permits.
59	52	Gas Distribution Emergency Response	52B	Emergency Response, Gas Dig-Ins, Services	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	124.3	681.4	557.2	448.3%	203	162	(41)	-20%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to less instances of dig-ins, outside forces, or third party damage that required replacement or deactivation of services instead of repair than anticipated.
60	52	Gas Distribution Emergency Response	52C	Emergency Response, Gas Dig-Ins, Mains	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 8	756.4	917.8	161.4	21.3%	988	1,991	1,003	102%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to more instances of dig-ins, outside forces, or third party damage that required replacement or deactivation of mains instead of repair than anticipated.
61	74	Install New Gas Meters	74A	Gas Regulator Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-3), Chapter 6	1,940.6	2,268.5	327.9	16.9%	6,298	6,236	(62)	-1%	NO	NO	NO	Below variance threshold.	Below variance threshold.

(a) PG&E does not allocate the costs of the SCADA mitigations among the Measurement and Control risks they support because the costs cannot be allocated in a meaningful way. To monitor and operate the gas system and mitigate potentially abnormal conditions, Gas Control Center (GCC) personnel must be able to view pressure and flow data from key locations within the gas system. Typically, these locations are at regulator stations, where supply enters the downstream and pressure is highest, and at the historic or modeled points of lowest pressure. Due to their importance in operating the system, regulator stations may have multiple SCADA devices, one immediately upstream of, downstream of, and inside the station. SCADA devices provide the required visibility to GCC personnel.
(b) The information presented in the MAT 50D row also includes 2020 recorded costs and units from the following workstreams: atmospheric coating, rectifier replacements, RMU installations, casing mitigations, anode replacements, and distributed anode ground beds. PG&E created MAT 50Q in 2020 to record costs associated with casing mitigations. Some 2020 casing mitigation costs were recorded to 50Q but are presented along with 50D to match the 2020 GRC.
(c) Includes below ground grade 3 leak repairs recorded under Leak Abatement MWC 3P.

F. MAT Descriptions for Safety, Reliability, and Maintenance Work – Expense

For descriptions of how the following Gas Distribution expense programs relate to safety, reliability, or maintenance, please see the MAT descriptions which explain the type of work associated with each MAT below.

MAT DDA –Field Service, Other – Other Support costs for Field Services. This is a non-unitized MAT.

This MAT relates to safety and/or reliability and/or maintenance as it involves other support costs for MWC DD Provide Field Services.

MAT DDD – Pilot Relight – Seasonal and other gas pilot relight activities at customer's request. Does not include: (1) Relight for Gas Pipeline Replacement Program; (2) "Off by crew" relights; and (3) Service restoration following a major gas event. Unit of measure is number of service tickets.

This program relates to safety and/or reliability and/or maintenance as it involves seasonal and other gas pilot relight activities at a customer's request.

MAT DDE – Appliance Adjustments – Includes input, primary air, cleaning burner or pilot, safety checks and energy cost inquiries. Unit of measure is number of service tickets.

This program relates to safety and/or reliability and/or maintenance as it includes input, primary air, cleaning burner or pilot, safety checks and energy cost inquiries.

MAT DDF – Gas Fumigation – Gas starts/stops to facilitate fumigation work at customer premise. Unit of measure is number of service tickets.

This program relates to safety and/or reliability and/or maintenance as it involves gas starts/stops to facilitate fumigation work at a customer premise.

MAT DDG – Gas Leaks and Emergencies – Responding to customer-reported gas emergencies, includes high/low pressure, leaks, fires, explosions, carbon monoxide investigations, etc. on the customer's side of the gas meter. Includes flame pack call-out initiated by Gas Field Service where no leak is found on the distribution service or main. Does not include: (1) Leak Survey generated Non-hazardous leak repairs at meter; (2) Leak Survey initiated Hazardous gas leak repair at the meter set; (3) Gas dig in response or stand-by, company or non-company equipment; (4) Repair or replacement of gas valve; (5) Replacement of gas regulators; (6) Meter replacement; and

(7) Leaks on distribution main or service. Unit of measure is number of service tickets.

This program relates to safety and/or reliability and/or maintenance as it involves responding to customer reported gas emergencies, including high/low pressure, leaks, fires, explosions, carbon monoxide investigations, etc. on the customer's side of the gas meter.

MAT DDK – Gas Start – Turn-on (start) gas service at customer's request using routine change of account process. Requires site visit and manual operation. Does not include: (1) Company-generated field credit activity; and (2) New Business generated customer connects. Unit of measure is number of service tickets.

This program relates to safety and/or reliability and/or maintenance as it involves turning-on (starting) gas service at customer's request.

MAT DDL – Gas Stop – Turn-off (stop) gas service at customer's request using routine change of account process. Requires site visit and manual operation. Does not include: (1) Company-generated field credit activity; and (2) Gas disconnect and removal for obsolete facilities. Unit of measure is number of service tickets.

This program relates to safety and/or reliability and/or maintenance as it involves turning-off (stopping) gas service at customer's request.

MAT DEA – Leak Survey – Perform compliance foot and mobile surveys of distribution mains and services only. Includes cost of equipment calibration, e.g., flame pack units. Also includes Atmospheric Corrosion (AC) Inspections of exposed mains, exposed services, service risers, and meter sets being conducted in the course of the leak survey. Does not include Grade 1 Leak Standby unless the surveyor is actively helping with the repair (i.e., bar-hole pinpointing, digging etc.). Unit of measure is services surveyed.

This program relates to safety and/or reliability and/or maintenance as it involves performing compliance foot and mobile gas leak surveys of distribution mains and services. It also includes AC Inspections of exposed mains, exposed services, service risers, and meter sets being conducted in the course of the leak survey.

MAT DEB – Special Leak Survey – Perform special (non-compliance) foot and mobile leak survey of distribution mains and services, by special request

(city paving, customer callout, emergencies, engineering, and risk mitigation). Includes calibration of the instruments associated to this work. It also includes calibration of the instruments associated to this work. Does not include costs to investigate leaks found at or downstream of the service valve. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves special (non-compliance) foot and mobile leak survey of distribution mains and services, by special request (city paving, customer callout, emergencies, engineering, and risk mitigation). It also includes calibration of the instruments associated to this work.

MAT DEC – Leak Downgrade, No Repair – Includes instances where a repairable leak (Grade 1, 2, or 3)[2] is downgraded to a non-hazardous leak (Grade 3) that does not require repair, the leak is not found (Grade 0) or leak is due to non-PG&E gas. Unit of measure is services surveyed.

This program relates to safety and/or reliability and/or maintenance as it includes instances where a repairable leaks (Grade 1, 2 ,or 3) are downgraded to a non-hazardous leak (Grade 3) that do not require repair, instances where the leak is not found (Grade 0) or the leak is due to non-PG&E gas.

MAT DED – Leak Rechecks – Includes routine above and below ground Grade 3 and 2 leak rechecks, follow-up Grade 0 rechecks, and/or post-repair rechecks. Unit of measure is number of rechecks performed.

This program relates to safety and/or reliability and/or maintenance as it includes routine above and below ground Grade 3 and 2 leak rechecks, follow-up Grade 0 rechecks, and/or post-repair rechecks.

MAT DEE – Customer Calls – Survey/Investigation of leaks found on the distribution system where investigation is initiated by Customer Odor Complaint. Does not include: (1) Leak repair (pinpointing, digging, etc.), (2) Distribution assets, (3) Investigation of customer odor complaint where leak is found on the

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2 Grade 1 leaks (also referred to as “hazardous” leaks) represent existing or probable hazards to persons or property and require immediate repair or continuous action until conditions are no longer hazardous. Grade 2 leaks are non-hazardous to persons or property at the time of detection, but still require a scheduled repair because they present probable future hazards. Grade 3 leaks are non-hazardous at the time of detection and can reasonably be expected to remain non-hazardous.

customer side of the service valve (4) Leak repair (no meter exchange/rebuild). Unit of measure is number of customer calls.

This program relates to safety and/or reliability and/or maintenance as it involves survey and/or investigation of leaks found on the distribution system where the investigation is initiated by a customer odor complaint.

MAT DEF – Picarro Leak Survey – Includes: (1) Use of Picarro Surveyor to perform compliance leak survey (drive) of distribution mains and services only (2) Perform foot survey of leak indication search areas (LISA) and Gap Survey (foot survey performed for service & mains not in the field of view of Picarro surveyor); and (3) Field of View Survey (five feet from building survey sweep). Does not include: If the surveyor is actively helping with the repair (i.e., bar-hole pinpointing, digging etc.). Unit of measure is services surveyed.

This program relates to safety and/or reliability and/or maintenance as it includes: (1) Use of Picarro Surveyor to perform compliance leak survey (drive) of distribution mains and services only (2) Perform foot survey of LISA and Gap Survey (foot survey performed for service & mains not in the field of view of Picarro surveyor) and (3) Field of View Survey (five feet from building survey sweep).

MAT DEG – Picarro Special Survey – Includes: (1) Use of Picarro Surveyor to perform special (non-compliance) leak survey of distribution mains and services, by special request (city paving, customer callout, emergencies); (2) Foot survey of LISA and Gap Survey (foot survey performed for service and mains not in the field of view of Picarro surveyor); and (3) Calibration of the instruments associated to this work is charged here. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it includes: (1) Use of Picarro Surveyor to perform special (non-compliance) leak survey of distribution mains and services, by special request (city paving, customer callout, emergencies); (2) Foot survey of LISA and Gap Survey (foot survey performed for service and mains not in the field of view of Picarro surveyor); and (3) Calibration of the instruments associated to this work is charged here.

MAT DEH – Gas Capacity Uprates – Involves expense work to upgrade existing distribution systems to a higher Maximum Allowable Operating Pressure

(MAOP) for the primary purpose of creating new capacity. This is a non-unitized MAT.

This program relates to safety and/or reliability as it involves expense work to upgrade existing distribution systems to a higher MAOP for the primary purpose of creating new capacity.

MAT DE# – Leak Survey Support – Support costs for Leak Survey. This is a non-unitized MAT.

This MAT relates to safety and/or reliability and/or maintenance as it includes other support costs such as labor and other support for MWC DE Leak Survey.

MAT DFA – Locate and Mark – Locate and Mark underground Gas and Electric Distribution facilities per Underground Service Alert (USA) requests. Preparation of maps, process tickets, and perform administrative work, and Gas and Electric damage prevention activities. Does not include locate and mark for Gas and Electric Transmission, or fiber optic facilities. Also includes calibration/repair of equipment. Unit of measure is number of USA tickets worked.

This program relates to safety and/or reliability and/or maintenance as it involves locating and marking underground Gas and Electric Distribution facilities per USA requests and additional damage prevention activities like preparation of maps, processing tickets, performing administrative work, and calibration/repair of equipment.

MAT DFB – Locate and Mark, Standby – Includes observation of work performed within five feet of a gas or electric transmission facility or for excavation activity within close proximity of a critical distribution facility. Unit of measure is number of sites requiring a standby.

This program relates to safety and/or reliability and/or maintenance as it includes observation of work performed within five feet of a gas or electric transmission facility or for excavation activity within close proximity of a critical distribution facility.

MAT DF# – Locate and Mark, Other – Support costs for Locate and Mark, including membership costs for Underground Service Alert. This is a non-unitized MAT.

This MAT relates to safety and/or reliability and/or maintenance as it includes support costs for MWC DF Locate and Mark.

MAT DGA – Cathodic Protection: **Monitoring** – Include all types of pipe-to-soil reads, including isolated steel, rectifier reads, and remote monitoring. Also includes remote rectifier monitoring unit communication and software costs, and electric utility costs for rectifiers. Unit of measure is number of monitoring points read.

This program relates to safety and/or reliability and/or maintenance as it includes all types of pipe-to-soil reads (which provides information about the CP levels on the pipeline), including isolated steel, rectifier reads, and remote monitoring. Also includes remote rectifier monitoring unit communication and software costs, and electric utility costs for rectifiers.

MAT DGB – Cathodic Protection: **Troubleshooting** – Includes troubleshooting and identification of problems with down Cathodic Protection Areas (CPA) and performance of any remedial actions. Unit of measure is number of CPA's troubleshot.

This program relates to safety and/or reliability and/or maintenance as it includes troubleshooting and identification of problems with down CPA and performance of any remedial actions.

MAT DGC – Cathodic Protection: Rectifier Maintenance – Perform rectifier maintenance and associated costs. Unit of measure is number of rectifiers maintained.

This program relates to safety and/or reliability and/or maintenance as it involves performing rectifier maintenance.

MAT DGD – Cathodic Protection: Enhanced Survey – Conduct enhanced CP survey and associated activities. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves conducting enhanced CP survey and associated activities.

MAT DGE – Electrically Connected Isolated Steel Services– Identify and evaluate electrically connected isolated steel services and associated activities. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves identifying and evaluating electrically connected isolated steel services and associated activities.

MAT DGF – Unprotected Steel Main Evaluation – Identify and evaluate unprotected steel main as part of the enhanced CP survey program. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves identifying and evaluating unprotected steel main as part of the enhanced CP survey program.

MAT DGG – Installing Casing Test Stations – Install casing test stations. Unit of measure is number of casings mitigated.

This program relates to safety and/or reliability and/or maintenance as it involves installing casing test stations.

MAT DGH – Casing Short Mitigation Less Than 100 Feet – Clear casing shorts or replace cased pipe less than 100' in length. Unit of measure is number of casings mitigated.

This program relates to safety and/or reliability and/or maintenance as it involves clearing casing shorts or replacing cased pipe less than 100' in length.

MAT DGI – Casing Monitoring Without Lead – Annual casing monitoring for casings without leads. Unit of measure is number of casings monitored.

This program relates to safety and/or reliability and/or maintenance as it involves annual casing monitoring for casings without leads.

MAT DG# – Cathodic Protection, Other – Includes other support costs related to CP. This is a non-unitized MAT.

This MAT relates to safety and/or reliability and/or maintenance as it includes support costs for MWC DG CP.

MAT EXA – MPP Inspections – Includes inspecting the MPP database or performing a special survey to identify the need for Barrier Posts or Service Valves. This is a non-unitized program.

This program relates to safety and/or reliability as it involves inspecting the Meter Protection Program database or performing a special survey to identify the need for Barrier Posts or Service Valves.

MAT EXB – MPP Protections – Includes installing barrier posts in order to protect above ground gas facilities (meters and risers) from damage by vehicles. Does not include: Relocation requiring re-running the service from the main, which is under MWC 27. Unit of measure is number of locations.

This program relates to safety and/or reliability as it involves installing barrier posts in order to protect above ground gas facilities (meters and risers) from damage by vehicles.

MAT EXC – MPP Service Valves – Includes the installation of a new service valve or the relocation of an existing service valve if the property does not have an accessible service valve (for emergency response). Does not include: Re-running the service from the main which is under MWC 27.

This program relates to safety and/or reliability and/or maintenance as it involves the installation of a new service valve or the relocation of an existing service valve if the property does not have an accessible service valve (for emergency response).

MAT FGA – Gas Distribution Control Center Operations – Includes gas control personal, contractor support, increased main Remote Terminal Unit (RTU) and ERXs, apprentice training program, damage prevention, abnormal conditions, emergency response, compliance, systems operations, data collection, clearance process and benchmarking. This is a non-unitized MAT.

This program relates to safety and/or reliability and/or maintenance as it includes gas control personal, contractor support, increased main RTU and ERXs, apprentice training program, damage prevention, abnormal conditions, emergency response, compliance, systems operations, data collection, clearance process and benchmarking.

MAT FGB – Manual Field Operations, Mains and Services – Includes: Changing winter and station pressure recorder charts (including downloading ERX), performing instrument calibrations (test equipment, gauges, portable pressure recorders, etc.) operating valves (including changes in emergency zones), removing distribution system pipeline liquids and monitoring system pressure. Does not include: Calibration of Distribution Regulator Station mechanical pressure recorders during station maintenance, distribution SCADA including ERX calibrations. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it includes changing winter and station pressure recorder charts (including downloading ERX), performing instrument calibrations (test equipment, gauges, portable pressure recorders, etc.) operating valves (including changes in

emergency zones), removing distribution system pipeline liquids and monitoring system pressure.

MAT FGC – Manual Field Operations, Other – Control the supply and flow of gas through the distribution system via direction from the Gas Distribution Control Center (GDCC), adjust and change Distribution Regulator Station pressure set points, maintain station pressure in conjunction with winter or planned operational clearances. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves controlling the supply and flow of gas through the distribution system via direction from the GDCC, adjusting and changing Distribution Regulator Station pressure set points, and maintaining station pressure in conjunction with winter or planned operational clearances.

MAT FG# –Gas Distribution Control Center Operations, Other – Includes other support costs related to gas system operations. This is a non-unitized MAT.

This MAT relates to safety and/or reliability and/or maintenance as it includes support costs for MWC FG Operate Gas Distribution System.

MAT FHA – Preventative Maintenance, Gas Mains – Includes: (1) Non-leak repairs to distribution gas mains; (2) Rewrap, lower, or paint gas distribution mains; (3) Replace cover; protect shallow pipe; (4) Replace/repair pipe hangars; (5) Replace/relocate greater than 100 feet of gas distribution main; (6) Identify pipe; and (7) Install Electrical Test Station (ETS) for the purpose of locating the main. Does not include: (1) Main leak repairs; (2) Any work related to gas transmission; (3) Any work caused by work or alteration by a customer or third party; (5) Pothole gas facilities for potential conflicts with third-party work; (6) Third-Party damage; (7) AC; (8) Install ETS for purposes of corrosion prevention; (9) Fire valve repair or replacement; (10) Main or service alterations due to “sewer cross-bores”; and (11) Any corrective work related to sunk trenches or sunk bell holes. Unit of measure is number of mains maintained.

This program relates to safety and/or reliability and/or maintenance as it includes: (1) Non-leak repairs to distribution gas mains; (2) Rewrapping, lowering, or painting gas distribution mains; (3) Replacing cover; protecting shallow pipe; (4) Replacing/repairing pipe hangars; (5) Replacing/relocating

greater than 100 feet of gas distribution main; (6) Identifying pipe; and (7) Installing ETS for the purpose of locating the main.

MAT FHB – Preventative Maintenance, Gas Regulator Stations – Includes scheduled preventative maintenance inspections on distribution regulator stations, required maintenance work for all associated equipment inside the district regulator station, and vault dewatering. Does not include: (1) Repairs to inlet and outlet fire valves with a pressure greater than 60 psig; (2) SCADA calibration of GDCC RTUs and ERXs installed at a regulator station; and (3) Calibration of pressure recorders for planning "winter chart" applications (non-GDCC). This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it includes scheduled preventative maintenance inspections on distribution regulator stations.

MAT FHC – Preventative Maintenance, Gas Farm Tap – Performing atmospheric inspections on customer HPR sets, including Class "A" inspections. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves performing atmospheric inspections on customer HPR sets, including Class "A" inspections.

MAT FHE – Preventative Maintenance, Gas Services – Includes: (1) Repair non-leaking gas distribution services; (2) Riser replacement; (3) Rewrap, lower, or paint gas distribution services; (4) Clear and/or repair plugged services; (5) Replace cover, protect shallow pipe; (6) Repair, replace, relocate, or cut-off less than a full service; (7) Repair, replace curb valves less than 2 inches; (8) Investigate idle gas stub service cut-offs; (9) Install ETS for the purpose of locating the service; and (10) Installation of excess flow valve (EFV) (when not related to leak repair). Does not include: (1) Stub or service cut-off; (2) Any work caused by work or alteration by a customer or third party; (3) Third-Party damage; (4) AC; (5) Service valve replacement; (6) Work above the service valve; (7) Install ETS for the purpose of corrosion prevention; (8) Service leak repairs; (9) Main or service alterations due to "sewer cross-bores"; and (10) Any corrective work related to sunk trenches or sunk bell holes. Unit of measure is number of services repaired.

This program relates to safety and/or reliability and/or maintenance as it includes: (1) Repairing non-leaking gas distribution services; (2) Riser replacement; (3) Rewrapping, lowering, or painting gas distribution services; (4) Clearing and/or repairing plugged services; (5) Replacing cover; protecting shallow pipe; (6) Repairing, replacing, relocating, or cutting-off less than a full service; (7) Repairing or replacing curb valves less than 2 inches; (8) Investigating idle gas stub service cut-offs; (9) Installing ETS for the purpose of locating the service; and (10) Installation of EFV (when not related to leak repair).

MAT FHG – Preventative Maintenance, Gas Valves – Perform scheduled inspection of distribution main valves; verify operation, identification, and location; clean/pump out vaults/enclosures; lubricate/flush valves; clean/paint valve/frame and cover. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves performing Class “A” inspections and operation checks of emergency, curb, and sectionalizing valves.

MAT FHI – Corrective Maintenance, Gas Service Valves – Includes repair or replace inoperative service valves less than 2 inches. Does not include: (1) Valves greater than or equal to 2 inches (should be capitalized against MAT 50E); and (2) Work above the service valve. Unit of measure is number of valves replaced.

This program relates to safety and/or reliability and/or maintenance as it involves repairing or replacing inoperative service valves less than 2 inches.

MAT FHJ – Gas Non-Recurring Projects – One-time non-recurring maintenance projects on non-gas carrying facilities. This is a non-unitized MAT.

This program relates to safety and/or reliability and/or maintenance as it includes one-time non-recurring maintenance projects on non-gas carrying facilities.

MAT FHK – Atmospheric Corrosion Inspections – Inspect atmospherically exposed gas mains and services, for AC. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves inspecting atmospherically exposed gas mains and services, for AC.

MAT FHL – Atmospheric Corrosion Main Repairs – Perform expense repair of AC on mains. Unit of measure is number of spans repaired.

This program relates to safety and/or reliability and/or maintenance as it involves performing expense repairs of AC on mains.

MAT FHM – Atmospheric Corrosion Service Repairs – Expense repairs of AC on services to below stopcock. Does not include: AC repairs of customer gas regulators and meter sets. Unit of measure is number of services repaired.

This program relates to safety and/or reliability and/or maintenance as it involves expense repairs of AC on services to below the stopcock.

MAT FHN – Atmospheric Corrosion Distribution Regulator Station Repair – Expense repairs of AC on distribution district regulator stations. Unit of measure is number of stations mitigated.

This program relates to safety and/or reliability and/or maintenance as it involves expense repairs of AC on distribution district regulator stations.

MAT FHO – Preventative Maintenance Supervisory Control and Data Acquisition (SCADA) – SCADA Preventive Maintenance to RTU, SCADA Transmitters and ERXs. Does not include: Preventative maintenance associated with pressure recorders for planning “winter chart” applications (non-GDCC). This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves performing SCADA Preventive Maintenance to RTUs, SCADA Transmitters and ERXs.

MAT FHP – Corrective Maintenance SCADA – SCADA Corrective Maintenance to RTUs, SCADA Transmitters, ERXs, as well as GDCC RTUs and GDCC ERXs. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves performing SCADA Corrective Maintenance to RTUs, SCADA Transmitters and ERXs. It also includes SCADA corrective maintenance of GDCC RTUs and GDCC ERXs.

MAT FHQ – Overpressure Protection (OPP) Enhancements – The OPP Enhancements Program includes: installation of pilot filters, system planning studies to identify the most effective secondary overpressure protection option, revision of standard and procedures, program management for developing and maintaining the over pressure elimination plan and pilot studies on new

equipment technologies for applicability to the PG&E system. This is a non-unitized MAT.

This program relates to safety and/or reliability and/or maintenance as it includes installation of pilot filters, system planning studies to identify the most effective secondary overpressure protection option, revision of standard and procedures, program management for developing and maintaining the over pressure elimination plan, and pilot studies on new equipment technologies for applicability to the PG&E system.

MAT FH# – Preventative Maintenance, Other – Includes field support costs. This is a non-unitized MAT.

This MAT relates to safety and/or reliability and/or maintenance as it includes compliance support costs for MWC FH Preventative Maintenance.

MAT FIB – Corrective Maintenance, Gas Regulator Station – Maintain and repair failed or inoperative distribution district regulation equipment. Does not include: Repair of SCADA equipment at a district regulator station; corrective paint work; or repairs for vault lids or station fencing. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves maintaining and repairing failed or inoperative distribution district regulation equipment.

MAT FIC – Corrective Maintenance, Gas Farm Tap – Perform repairs on customer HPR sets. This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it involves performing repairs on customer HPR sets.

MAT FIF – Corrective Maintenance, Gas Main Valves – Includes: (1) Replace valves less than 2 inches; (2) Repair all distribution main valves; (3) Repair/seal vaults and lids; and (4) Raise vaults and lids unless due to Work Requested by Others (especially street repaving). This is a non-unitized program.

This program relates to safety and/or reliability and/or maintenance as it includes: (1) Replacing valves less than 2 inches; (2) Repairing all distribution main valves; (3) Repairing and/or sealing vaults and lids; and (4) Raising vaults and lids (non WRO work).

MAT FIG –Main Leak Repair – Expense repair of non-dig-in leaks less than 100 feet on any distribution main and appurtenances (flanges, valves, etc.). Includes leak pinpointing. Includes repair of service leak by replacing a portion of main (100 feet or less). Includes repair of leak on existing cut-off service tee (24 inches or less). Does not include: If a suspected leak is excavated and downgraded to a 3 or 0 that won't be repaired, non-PG&E gas, and if service tee is cut off within 12 inches of main and no service exists. Below ground Grade 3 leak repairs are recorded under Leak Abatement MAT LWG. Unit of measure is number of main leaks repaired.

This program relates to safety and/or reliability and/or maintenance as it involves expense repairs of non-dig-in leaks less than 100 feet on any distribution main and appurtenances (flanges, valves, etc.). It includes leak pinpointing, repair of service leak by replacing a portion of main (100 feet or less), and repair of leak on existing cut-off service tee (24 inches or less).

MAT FIH – Gas Service Leak Repair, Above Ground – Leak pin-pointing and repair of non-dig-in leaks below the service valve on the above ground portion of the service. Does not include: If a suspected leak is excavated and downgraded to a 3 or 0 that won't be repaired, or non-PG&E gas. Unit of measure is number of service leak repairs (above ground).

This program relates to safety and/or reliability and/or maintenance as it includes leak pin-pointing and repair of non-dig-in leaks below the service valve on the above ground portion of the service.

MAT FII – Corrective Maintenance, CP – Includes: Repair existing anodes or rectifiers; dig up gas facilities to install insulating material; install new anodes on isolated steel as necessary; Install an ETS; restore a down Cathodic Protection Area without replacing capital plant. Does not include: any CP remediation or restoration activities. Unit of measure is number of corrosion tags cleared.

This program relates to safety and/or reliability and/or maintenance as it includes: (1) repairing existing anodes or rectifiers; (2) digging up gas facilities to install insulating material; (3) installing new anodes on isolated steel as necessary; (4) installing an ETS; and (5) restoring a down CP Area without replacing capital plant.

MAT FIJ – Main Dig-In Repair – Expense repair of dig-in leaks and other third-party damage to any distribution main and appurtenances (flanges, valves, etc.). Unit of measure is number of main dig-ins repaired.

This program relates to safety and/or reliability and/or maintenance as it involves expense repairs of dig-in leaks and other third-party damage to any distribution main and appurtenances (flanges, valves, etc.).

MAT FIK – Service Dig-In Repair – Expense repair of dig-in leaks and other third-party damage to any service (including curb valves). Unit of measure is number of service dig-ins repaired.

This program relates to safety and/or reliability and/or maintenance as it involves expense repairs of dig-in leaks and other third-party damage to any service (including curb valves).

MAT FIM –Major Event – Includes gas major events and also emergencies declared by the Governor or President. This is a non-unitized MAT.

This program relates to safety and/or reliability and/or maintenance as it involves work in response to gas major events and emergencies declared by the Governor or President.

MAT FIO – Encroachment Program (formerly Overbuild) – Relocation of partial gas service and/or main (less than 100 feet) due to encroachment condition. Unit of measure is number of services repaired.

This program relates to safety and/or reliability and/or maintenance as it involves the relocation of a partial gas service and/or main (less than 100 feet) due to encroachment conditions.

MAT FIP – Service Leak Repair, Below Ground – Leak pinpointing and repair of non-dig in leak on below ground section of any service (includes curb valves) from tee to where riser breaks ground. Includes: (1) Above ground leak that requires below ground repair (i.e., must replace section of below ground pipe or riser); and (2) Riser replacement including section of below ground service. Does not include: If a suspected leak is excavated and downgraded to a 3 or 0 or non-PG&E gas. Below ground Grade 3 leak repairs are recorded under Leak Abatement MAT LWH. Unit of measure is number of service leak repairs (below ground).

This program relates to safety and/or reliability and/or maintenance as it involves leak pinpointing and repair of non-dig in leak on below ground section

of any service (includes curb valves) from tees to where risers breaks ground. It includes: (1) Above ground leak that requires below ground repair (i.e., must replace section of below ground pipe or riser); and (2) Riser replacement including section of below ground service.

MAT FIQ – Atmospheric Corrosion Meter Inspection – Inspect atmospherically risers, customer gas regulators (including HPRs), and meter sets for AC where not completed by routine leak survey work. Unit of measure is number of locations inspected.

This program relates to safety and/or reliability and/or maintenance as it involves inspecting atmospherically risers, customer gas regulators (including HPRs), and meter sets for AC where not completed by routine leak survey work.

MAT FIR – Tee-Cap Replacement Program – Projects specified by the plastic tee cap repair team to lower risks in the plastic system. Unit of measure is number of tee caps replaced.

This program relates to safety and/or reliability and/or maintenance as it involves projects specified by the plastic tee cap repair team to lower risks in the plastic system.

MAT FIS – Leak Survey Meter Repair – Scheduled repair of Non-Hazardous gas leaks at the meter set. Does not include: (1) Hazardous gas leak repair at the meter set initiated by Leak Survey; (2) Customer generated field orders for gas leak investigation; (3) Repair or replacement of gas valve; (4) Replacement of gas regulators; (5) Meter replacement; and (6) Gas leak surveys performed by Leak Surveyors. Unit of measure is number of meters repaired.

This program relates to safety and/or reliability and/or maintenance as it involves scheduled repair of Non-Hazardous gas leaks at the meter set.

MAT FI# – Gas Corrective Maintenance, Other – This includes support costs for Gas Corrective Maintenance including leak repair support. This is a non-unitized MAT.

This MAT relates to safety and/or reliability and/or maintenance as it includes support costs for MWC FI Gas Corrective Maintenance.

MAT GFO –Mapping Support – Includes: (1) Distribution Mapping activities not directly charged to orders such as Posting Obsolete Orders, Delineations, Data Management Non-Posting and Map Reprographics,

Annexations, Posting Corrections, Operating Maps, and Diagrams, Asset Registry and Request for Work, Corrective Action Program Mapping and Information and Data Requests; and (2) Special Distribution Mapping projects. This is a non-unitized MAT.

This program relates to safety and/or reliability and/or maintenance as it includes: (1) Distribution Mapping activities not directly charged to orders such as Posting Obsolete Orders, Delineations, Data Management Non-Posting and Map Reprographics, Annexations, Posting Corrections, Operating Maps, and Diagrams, Asset Registry and Request for Work, Corrective Action Program Mapping and Information and Data Requests; and (2) Special Distribution Mapping projects.

MAT GGA – Gas System Planning – Perform hydraulic analysis on gas distribution systems to support operations and long-term design. Build and maintain computer models of the gas distribution system. This is a non-unitized MAT.

This program relates to safety and/or reliability and/or maintenance as it involves performing hydraulic analysis on gas distribution systems to support operations and long-term design. It also includes building and maintaining computer models of the gas distribution system.

MAT GG# – Gas Distribution Portfolio Management and Engineering – Preliminary engineering prior to determining the type of work (install vs. repair) to be performed, such as, defining economic alternatives, field checking of asset conditions, approximate scope/cost of work, and economic analysis. This is a non-unitized MAT.

This MAT relates to safety and/or reliability and/or maintenance as it includes support costs for MWC GG Gas Mapping.

MAT GMC –CNG Station O&M – Corrective and Preventative Maintenance on CNG Stations. This is a non-unitized MAT.

This program relates to safety and/or reliability and/or maintenance as it involves maintenance and operating expenditure for CNG Stations.

MAT GM# – CNG Station, Other – Includes other support costs related to CNG maintenance. This is a non-unitized MAT.

For how this MAT relates to safety and/or reliability and/or maintenance see MWC GM Natural Gas Fueling Facilities Operation and Maintenance.

MAT HYI – Meter Set Atmospheric Corrosion Remediation – Perform remediation of AC on customer gas meters and regulators as identified through the AC Inspection Program Does not include: (1) AC inspection; (2) AC repair on HPRs; (3) AC repair on distribution mains, services, valves, etc.; (4) Meter replacement; and (5) Regulator replacement. Unit of measure is number of meters repaired.

This program relates to safety and/or reliability and/or maintenance as it involves performing remediation of AC on customer gas meters and regulators as identified through the AC Inspection Program.

MAT HY# – Meter Set Maintenance, Other – Includes provider cost center SCV aligned with gas meter maintenance. This is a non-unitized MAT.

This MAT relates to safety and/or reliability and/or maintenance as it includes support costs for MWC HY Meter Maintenance.

MAT JQA – DIMP Leak Survey – Leak Survey enhancements. Unit of measure is number of services surveyed.

This program relates to safety and/or reliability and/or maintenance as it involves system integrity leak surveys.

MAT JQC – Dig-In Reduction Team – Costs associated with the Dig-in Reduction Team (DiRT). The costs include investigations of dig-ins, documentation of damage incidents, 811 outreach and education, 811 Ambassador program management and response and other Damage Prevention activities by DiRT Members. These Damage Prevention activities include: Field contacts at excavation sites, follow-up on reports of unsafe excavation activities and meetings with excavators. Also, costs associated with the ticket management system (i.e., licensing fees, data storage and required formatting changes). This is a non-unitized MAT.

See MWC DF Locate and Mark for how this program relates to safety and/or reliability and/or maintenance.

MAT JQD – DIMP Emergent Work – Emergent work associated with operational events and risk mitigation activities identified by the DIMP. This is a non-unitized program.

This program relates to safety and/or reliability as it manages and executes the DIMP emergent work.

MAT JQE – Plastic Program – Oversees selection, testing and development of plastic materials, tools, and associated construction methods for use on the PG&E distribution system. Also includes: Laboratory testing, sample material, and prototype tools and equipment purchases. This is a non-unitized MAT.

This program relates to safety and/or reliability and/or maintenance as it oversees selection, testing and development of plastic materials, tools, and associated construction methods for use on the PG&E distribution system. It also includes laboratory testing, sample material, and prototype tools and equipment purchases.

MAT JQG – Mechanical Fitting Replacement Program – Replacement program for removal of mechanical fittings with known failures. Includes removal of compression style mechanical fittings with risk of corrosion and leak.

This program relates to safety and/or reliability as it replaces mechanical fittings with known failures, including the removal of compression style mechanical fittings with risk of corrosion and leaks.

MAT JQK – Cross Bore Program – Includes: research of records, create and execute legacy storm and sewer inspections. Repair costs to remove legacy cross bores. Does not include: Replacement of gas pipe beyond the cross bore segment. Unit of measure is number of inspections.

This program relates to safety and/or reliability as it involves conducting storm and sewer inspections, repair costs to remediate cross bores, and records research.

MAT JQL – DIMP Program Management – Costs for DIMP staff. This is non-unitized work.

This program relates to safety and/or reliability and/or maintenance as it involves costs for DIMP staff.

MWC OM – Operational Management – includes labor and employee-related costs to provide supervision and management support. MWC OM also includes costs incurred by the administrative staff working for the Supervisors/Managers. This is a non-unitized MWC.

MWC OM is included as a maintenance activity in accordance with Energy Division's February 12, 2019 letter to PG&E. Gas Distribution does not consider MWC OM as related directly to safety and/or reliability and/or maintenance work.

G. MAT Descriptions for Safety and Reliability Work – Capital

For descriptions of how the following Gas Distribution capital programs relate to safety, reliability, or maintenance, please see the MAT descriptions which explain the type of work associated with each MAT below.

MAT 14A – Gas Pipeline Replacement Program (GPRP) – Replace main and services qualifying for replacement under the Gas Pipeline Replacement Program. Does not include: Deactivation with no capital main installation less than 100 feet. Unit of measure is feet of main Installed.

This program relates to safety and/or reliability as it involves replacing main and services qualifying for replacement under the GPRP.

MAT 14B – Copper Service Replacement – Replace copper services identified under the Copper Service Replacement Program. Unit of measure is number of services replaced.

This program relates to safety and/or reliability and/or maintenance as it involves replacing copper services identified under the Copper Service Replacement Program.

MAT 14D – Plastic Pipe Replacement– Replace main and services qualifying for replacement under the Plastic Pipeline Replacement Program. Does not include: Deactivation of main with no capital main installation (less than 100 feet). Unit of measure is Feet of Main Installed.

This program relates to safety and/or reliability and/or maintenance as it involves replacing main and services qualifying for replacement under the Plastic Pipeline Replacement Program.

MAT 2KA – Customer High Pressure Regulator Station Main Conversion – Replace or install greater or equal to 100 feet gas distribution main to eliminate customer HPRs. Unit of measure is number of HPRs mitigated.

See MWC 2K Gas Distribution Replace/Convert Customer HPRs for how this program relates to safety and/or reliability and/or maintenance.

MAT 2KB – Customer HPR Station Conversion to District Regulator (DR) Station – Replace or install: (1) farm tap to convert to a HPR Station Type DR, (2) HPR Type DR to convert to a pilot operated district regulator station. Does not include: Replacement of pilot operated district regulator stations or

High Pressure Type DR with regulation 1 inch and above. Unit of measure is number of HPRs mitigated.

See MWC 2K Gas Distribution Replace/Convert Customer HPRs for how this program relates to safety and/or reliability and/or maintenance.

MAT 2KC – Customer High Pressure Regulator Reg Station Replacement – Includes replacement of HPR in kind. Unit of measure is number of HPRs mitigated.

See MWC 2K Gas Distribution Replace/Convert Customer HPRs for how this program relates to safety and/or reliability and/or maintenance.

MAT 2K# – Gas Distribution Replace/Convert Customer HPRs, Other – Includes other support costs related to HPRs.

See MWC 2K Gas Distribution Replace/Convert Customer HPRs for how this program relates to safety and/or reliability and/or maintenance.

MAT 27A – Meter Protection-Capital – Includes: (1) Meters that cannot be adequately protected by barrier posts and require relocation with re-running the service from the main; and (2) services with inaccessible service valves (emergency response) that require re-running the service from the main. Does not include: Minor relocations or service valve installations that do not require re-running the service from the main. Unit of measure is number of services corrected.

This program relates to safety and/or reliability and/or maintenance as it includes: (1) Meters that cannot be adequately protected by barrier posts and require relocation with re-running the service from the main, and (2) services with inaccessible service valves (emergency response) that require re-running the service from the main.

MAT 31A – CNG Stations – Capital work on CNG stations. This MAT is non-unitized.

This program relates to safety and/or reliability and/or maintenance as it involves capital work to replace obsolete equipment that no longer can meet the demands of the station, or is not in acceptable working condition.

MAT 4AA – Regulator Station Monitoring and Control – HPR Station Monitoring and Control. Includes upstream, midstream, and downstream pressure, differential pressure, flow and shut-off control. Unit of measure is RTUs installed.

This program relates to safety and/or reliability and/or maintenance as it involves HPR Station monitoring and control (single run). It includes upstream, midstream, and downstream pressure, differential pressure, flow and shut off control.

MAT 4AB – Regulator Station Monitoring – HPR Station Monitoring-Single Run: Includes upstream, midstream, and downstream pressure, differential pressure and flow. Unit of measure is RTUs installed.

This program relates to safety and/or reliability and/or maintenance as it involves HPR Station monitoring (single run). It includes upstream, midstream, and downstream pressure, differential pressure and flow.

MAT 4AC – Real-Time PSR Monitor-Type 4 – HPR Station Monitoring: Includes upstream and downstream pressure. Unit of measure is RTUs installed.

This program relates to safety and/or reliability and/or maintenance as it involves HPR Station monitoring. It includes upstream and downstream pressure.

MAT 4AF – ERX Pressure Monitoring – Includes regulator station, Hydraulically Independent System (HIS) pipeline or valve pressure. Unit of measure is number of electronic pressure recorders.

This program relates to safety, reliability, and compliance as it involves electronic recorder pressure monitoring. It includes regulator stations, HIS pipeline or valve pressure.

MAT 4AK – Regulator Station Monitoring Single No Flow-Type 3 – High and Low Pressure Regulator Station Monitoring-Single Run: Includes upstream, midstream, and downstream pressure, differential pressure (high pressure only) and vault water level (low pressure only). Unit of measure is RTUs installed.

This program relates to safety and/or reliability and/or maintenance as it involves High and Low Pressure Regulator Station monitoring (single run). It includes: upstream, midstream, and downstream pressure, differential pressure (high pressure only), vault water level (low pressure only) and shut-off control.

MAT 4AL – Regulator Station Monitoring Dual Flow-Type 3 – HPR Station Monitoring-Dual Run: Includes upstream, midstream, and downstream pressure; differential pressure; and flow. Unit of measure is RTUs installed.

This program relates to safety and/or reliability and/or maintenance as it involves High Pressure Regulator Station monitoring (dual run). It includes: upstream, midstream, and downstream pressure; differential pressure; and flow.

MAT 4AM – Regulator Station Monitoring Dual No Flow-Type 3 – High and Low Regulator Station Monitoring-Dual Run: Includes upstream, midstream, and downstream pressure; differential pressure (high pressure only) and vault water level (low pressure only). Unit of measure is RTUs installed.

This program relates to safety and/or reliability and/or maintenance as it involves High and Low Pressure Regulator Station monitoring (dual run). It includes upstream, midstream, and downstream pressure, differential pressure (high pressure only), and vault water level (low pressure only).

MAT 4A# – Gas Distribution Control Operations Assets, Other – Includes other support costs related to Gas Distribution Control Operations. This is a non-unitized MAT.

See MWC 4A Gas Distribution Control Operations Assets for how this MAT relates to safety and/or reliability and/or maintenance.

MAT 47B – Gas Capacity, Mains – Installation of gas main to provide additional capacity. The primary unit of measure is feet of main installed.

This program relates to safety and/or reliability and/or maintenance as it involves installation of gas main to provide additional capacity.

MAT 47C – Gas Capacity, Regulator Station – Installation of new district regulator station to provide additional capacity (including cost to install SCADA). The primary unit of measure is total number of regulator stations addressed.

This program relates to safety and/or reliability and/or maintenance as it involves installation of new district regulator station to provide additional capacity (including cost to install SCADA).

MAT 47D – Gas Capacity, Replace Regulator Station Component – Install or replace gas regulation equipment at an existing district regulator station to provide additional capacity. Includes valves, filters, regulators, and other capital equipment within the station. The primary unit of measure is number of regulator station components.

This program relates to safety and/or reliability and/or maintenance as it involves installation or replace gas regulation equipment at an existing district regulator station to provide additional capacity.

MAT 47F – Gas Capacity, Other Enhancements – Install or replace facility for capacity. This MAT is non-unitized.

This program relates to safety and/or reliability and/or maintenance as it involves installing or replacing a facility for capacity.

MAT 50A – Reliability Main Replacement – Replace/install greater than or equal to 100 feet of gas distribution main due to deterioration or reduced reliability, and includes non-leak replacements driven by corrosion. Does not include: Deactivation of main; shallow mains and services, if the condition was caused by work or alteration by a customer/third party. Unit of measure is feet of main installed.

This program relates to safety and/or reliability and/or maintenance as it involves replacing and/or installing greater than or equal to 100 feet of gas distribution main due to deterioration or reduced reliability.

MAT 50B – Reliability Service Replacement – Includes: (1) Replace entire service due to deterioration or reduced reliability including non-leak replacements driven by corrosion; and (2) re-establishing an existing electronic recorder to a service that is being replaced. Does not include: capital service leak repairs, opportunistic service replacements, idle stub cut-offs, shallow services, if the condition was caused by work or alteration by a customer/third party, or new installations of ERXs. Unit of measure is number of services replaced.

This program relates to safety and/or reliability and/or maintenance as it includes replacing an entire service due to deterioration or reduced reliability.

MAT 50C – Gas Regulator Station Rebuild – Includes: Replacement of an entire district regulator station (existing pilot operated station and HPR Type stations with regulation 1 inch and above) due to deterioration or reduced reliability. Does not include: replacement of HPRs. Unit of measure: number of regulator stations addressed.

This program relates to safety and/or reliability and/or maintenance as it includes replacement of an entire district regulator station (existing pilot operated station and HPR Type stations with regulation 1 inch and above) due to deterioration or reduced reliability.

MAT 50D/50Q – CP Systems – Includes: For ETS greater than or equal to five stations at a single location the following – rectifier replacement, including

inserts or new installations, pipe coating greater than or equal to 100 feet, Remote Monitoring Units (RMU), and casing remediation greater than 100 feet. Does not include: Impressed Current Anodes (Deep or Shallow bed) which is part of MAT 50P. CP systems for Electrical (ETS) less than five stations at a single location are expense. Units of measure include RMUs, Casing Mitigation, and CP Systems.

This program relates to safety and/or reliability and/or maintenance as it includes for ETS greater than or equal to five stations at a single location the following: rectifier replacement, including inserts or new installations, pipe coating greater than or equal to 100 feet, RMUs, and casing remediation.

MAT 50E – Reliability Gas Valve Replacement – Includes: Replace/install gas distribution valves greater or equal to 2 inches (e.g., emergency shutdown, riser valves 2" or greater, and therm billing area valves). Does not include station fire valve or block valve replacement (part of MAT 50L Regulator Station Components). Unit of measure is number of valves installed.

This program relates to safety and/or reliability and/or maintenance as it includes replacing or installing gas distribution valves greater or equal to 2 inches (e.g., emergency shutdown, riser valves 2" or greater, and therm billing area valves).

MAT 50F – Reliability Gas Other Equipment Replacement – Includes: Replace/install/deactivate other units of gas capital (e.g., permanent pressure recorders and new pits/vaults; all deactivation-only jobs for CP systems). Does not include partial pit/vault rebuilds and/or lids only. This is a non-unitized MAT.

This program relates to safety and/or reliability and/or maintenance as it includes: (1) replacing, installing, or deactivating other units of gas capital; (2) permanent pressure recorders and new pits or vaults; and (3) all deactivation-only jobs for CP systems.

MAT 50G – Leak Management – Simple Service Replacement – Replace/deactivate entire or stub services due to leaks not due to idle facilities or "dig-ins." Below ground Grade 3 leak replacements are recorded under Leak Abatement MAT 3PB. Unit of measure is number of services replaced.

This program relates to safety and/or reliability and/or maintenance as it includes replacement or deactivation of an entire stub or stub service due to leaks that are not due to idle facilities or dig-ins.

MAT 50H – Reliability, Cut-Off Idle Gas Service – Remove/deactivate entire or stub services due to idle facilities and not due to leaks, overbuilds, "dig-ins." or demolitions. Does not include: Capital work for demolition. Unit of measure is cut off idle services.

This program relates to safety and/or reliability and/or maintenance as it involves removal or deactivation of an entire service or stub services due to idle facilities and not due to leaks, overbuilds, dig-ins, or demolitions.

MAT 50I – Improve Reliability – Deactivation – Deactivate gas mains (and the associated services), regulator stations, or valves. Does not include new mains limited to less than 100 feet; those with greater than or equal to 100 feet or gas service deactivations with no main deactivation. This program is non-unitized.

This program relates to safety and/or reliability and/or maintenance as it involves deactivation of gas main (and the associated services), regulator stations, or valves.

MAT 50J – Encroachment Program – Relocation/rearrangement of gas main (greater than 100 continuous feet) and/or complete gas service replacement to clear encroachment conflicts. Does not include customer requested relocations to clear encroachment. Unit of measure is number of relocated/ rearranged mains and completed gas services replaced.

This program relates to safety and/or reliability and/or maintenance as it involves relocation or rearrangement of a gas main (greater than 100 continuous feet) and/or complete gas service replacement to clear encroachment conflicts.

MAT 50K – Emergent Leaking Main Replacement – Replace/install greater than or equal to 100 feet of gas distribution main due to leaks. Does not include: Deactivation of main only jobs. Unit of measure is feet of main installed.

This program relates to safety and/or reliability and/or maintenance as it involves replacement or installation of greater than or equal to 100 feet of gas distribution main due to leaks.

MAT 50L – Gas Regulator Station Component Rebuilds – Replacement of regulator station component due to deterioration or reduced reliability. Includes valves (both upstream and downstream fire valves and block valves),

filters, regulators, and other capital equipment within the station. Unit of measure is number of Regulator Station components replaced within a station.

This program relates to safety and/or reliability and/or maintenance as it involves replacement of regulator station component due to deterioration or reduced reliability. It includes valves (both upstream and downstream fire valves and block valves), filters, regulators, and other capital equipment within the station.

MAT 50M – Leak Management – Complex Service Replacements – Replace/deactivate entire or stub complex services due to leaks, not due to idle facilities or "dig-ins." Also includes large commercial meter sets, and any complex load calculations that require Gas Distribution Engineering and Design. Below ground Grade 3 leak replacements are recorded under Leak Abatement MAT 3PC. Unit of measure is number of services replaced.

This program relates to safety and/or reliability and/or maintenance as it involves replacement or deactivation of an entire or stub complex services due to leaks not due to idle facilities or dig-ins. It also includes large commercial meter sets, and any complex load calculations that require Gas Distribution Engineering and Design.

MAT 50N – GD Overpressure Protection Enhancements – OPP includes: installation of filters and separators at strategic locations within the system to reduce the likelihood of debris and liquids from entering the system and impacting pilot-operated regulators and monitors; and installation of secondary OPP devices at stations with pilot-operated regulators and monitors. These additional devices may include slam shuts valves, monitor valves, relief valves, or alternate technologies to prevent overpressure events from occurring; and installation of pressure transmitters system wide for enhanced visibility and removal or installation of additional MAOP separation valves. Unit of measure is total number of regulator stations addressed.

This program relates to safety and/or reliability and/or maintenance as it includes the installation of secondary OPP devices at pilot-operated regulator stations. These additional devices may include slam shuts devices, monitor valves, relief valves, or alternate technologies to prevent overpressure events from occurring; and installation of pressure transmitters system wide

for enhanced visibility and removal or installation of additional MAOP separation valves.

MAT 50P – Cathodic Protection System - New/Replace – Installation of impressed current ground bed, deep or shallow. Unit of measure is number of CP systems installed.

This program relates to safety and/or reliability and/or maintenance as it involves installation of impressed current ground bed, deep or shallow.

MAT 52B – Emergency Response to Dig-Ins, Services – Replace/deactivate entire or stub services due to "dig-in," outside forces, or third-party damage. Also, includes service cut-offs due to emergencies (e.g., due to fire). Unit of measure is number of services replaced.

This program relates to safety and/or reliability and/or maintenance as it involves replacing or deactivating an entire service or stub services due to "dig-ins," outside forces, or third-party damage. It also includes service cut-offs due to emergencies (e.g., due to fire).

MAT 52C – Emergency Response to Dig-Ins, Mains – Replace greater than or equal to 100 feet gas distribution main due to dig-in or damage by outside forces or third party. Deactivate greater than or equal to 1-foot gas distribution main due to dig-in or damage by outside forces. Unit of measure is footage of main replaced.

This program relates to safety and/or reliability and/or maintenance as it involves replacing greater than or equal to 100 feet gas distribution main due to dig-ins, damage by outside forces, or third parties. It also includes deactivations of greater than or equal to 1-foot gas distribution main due to dig-ins or damage by outside forces.

MAT 74A – Gas Regulator Replacement – Labor to replace failed or deteriorating residential and non-residential regulators while performing routine maintenance or other field activity. Includes targeted regulator replacement programs and filter replacement with regulator replacement for large meter work 2" and greater. Does not include: (1) regulator replacement in conjunction with a meter set, (2) the cost of the regulator; (3) HPR replacement; (4) distribution district regulation equipment; and (5) replacement of strainer. Unit of measure is number of regulators.

This program relates to safety and/or reliability and/or maintenance as it involves labor to replace failed or deteriorating residential and non-residential regulators while performing routine maintenance or other field activity. It includes targeted regulator replacement programs and filter replacement with regulator replacement for large meter work 2” and greater.

PACIFIC GAS AND ELECTRIC COMPANY

SECTION 3

ELECTRIC DISTRIBUTION

IMPUTED ADOPTED VS. RECORDED COMPARISON

PACIFIC GAS AND ELECTRIC COMPANY
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ELECTRIC DISTRIBUTION
IMPUTED ADOPTED VS. RECORDED COMPARISON

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PACIFIC GAS AND ELECTRIC COMPANY
SECTION 3
ELECTRIC DISTRIBUTION
IMPUTED ADOPTED VS. RECORDED COMPARISON

A. Introduction

This section includes the following information for the Electric Distribution line of business: a comparison of the total 2020 imputed adopted spend vs. the actual spend. This section also includes, for programs that are related to safety, reliability, or maintenance, the Major Work Category (MWC)/Maintenance Activity Type (MAT) Code descriptions, imputed adopted vs. actuals comparison details and variance explanations. As required by Decision (D.) 19-04-020[1] the MWC/MAT Code descriptions include a discussion of how each program/project relates to safety, reliability, or maintenance. Also included in this section are supplemental reporting on certain units of work, progress on the non-exempt surge arrestor replacement program, and age data of Pacific Gas and Electric Company's (PG&E or the Company) distribution poles.

[1] Attachment 2, p. 9.

B. Comparison Summary Tables

TABLE 3-1
ELECTRIC DISTRIBUTION 2020 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)
1	Support and Emergency Preparedness and Response (EP&R)	AB	66,476.8	58,860.3	(7,616.5)
2	Read & Investigate Meters	AR	0.0	10,095.5	10,095.5
3	Electric Distribution Operation Activities	BA	21,343.7	30,016.6	8,672.9
4	Electric Distribution Patrols and Inspections	BF	33,084.3	159,713.3	126,629.0
5	Electric Distribution Routine Emergency	BH	57,276.1	67,075.2	9,799.1
6	Maintenance of Other Equip	BK	1,662.5	1,851.5	189.0
7	Customer Field Service Work	DD	20,381.1	23,605.5	3,224.5
8	Develop & Provide Training	DN	0.0	168.0	168.0
9	Manage Service Inquiries	EV	12,624.9	12,985.8	360.8
10	Electric Operations Work Requested by Others (WRO)	EW	8,858.9	15,521.5	6,662.6
11	Change/Maintenance Used Electric Meter	EY	0.0	6,808.5	6,808.5
12	Electric Distribution Engineering and Planning	FZ	16,973.6	16,644.8	(328.8)
13	Poles – Intrusive Inspection/Test and Treat Program	GA	13,584.5	32,126.4	18,541.9
14	Operate and Maintain Substations	GC	29,124.6	49,608.4	20,483.8
15	Electric Distribution Mapping	GE	5,899.0	8,845.1	2,946.1
16	Electric Distribution Operational Technology	HG	10,947.8	7,228.3	(3,719.5)
17	Vegetation Management Balancing Account	HN	548,012.6	736,320.0	188,307.4
18	Distribution Automation & Protection Support	HX	2,048.3	2,344.2	295.9
19	Perform Gas Meter Maintenance	HY	0.0	1,552.4	1,552.4
20	Electric Distribution Major Emergency	IF	33,743.5	30,973.4	(2,770.1)
21	Various Balancing and Memorandum Accounts	IG	0.0	783,961.0	783,961.0
22	Streetlight Support	IS	1,087.5	708.5	(379.0)
23	Collect Revenue	IU	0.0	1,499.2	1,499.2
24	Maintain IT Applications & Infrastructure	JV	5,246.0	2,489.5	(2,756.5)
25	Preventive Maintenance and Equipment Repair, Overhead (OH)	KA	32,448.7	113,900.8	81,452.2
26	Preventive Maintenance and Equipment Repair, Underground (UG)	KB	12,537.2	13,147.3	610.2
27	Preventive Maintenance and Equipment Repair,	KC	4,025.3	4,890.8	865.5
28	Operational Management	OM	7,217.3	(4,204.1)	(11,421.4)
29	Operational Support	OS	22,304.7	55,554.7	33,250.1
30	**Total**		**966,908.7**	**2,244,292.3**	**1,277,383.6**

TABLE 3-2
ELECTRIC DISTRIBUTION 2020 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)
1	Tools & Equipment	05	7,397.5	6,711.0	(686.5)
2	Electric Distribution Line and Equipment Capacity	06	90,793.5	107,255.3	16,461.8
3	Electric Distribution Install/Replace Overhead Poles	07	108,278.6	246,582.5	138,303.9
4	Electric Distribution Overhead Asset Replacement	08	544,535.2	501,370.6	(43,164.6)
5	Electric Distribution Automation & Protection	09	33,844.5	37,503.9	3,659.4
6	Electric Distribution Work Requested by Others (WRO) General	10	121,507.1	145,660.1	24,152.9
7	Electric Distribution Customer Connects	16	450,570.2	536,186.4	85,616.2
8	Electric Distribution Routine Emergency	17	183,518.1	247,499.6	63,981.5
9	Miscellaneous Capital and Emergency Preparedness & Response	21	(24,928.7)	18,469.3	43,397.9
11	Install New Electric Meters	25	0.0	24,204.9	24,204.9
12	Electric Distribution Preventive Maintenance Overhead	2A	192,504.0	314,608.5	122,104.5
13	Electric Distribution Preventive Maintenance Underground	2B	57,228.8	47,590.1	(9,638.7)
14	Electric Distribution Preventive Maintenance	2C	19,260.8	22,565.9	3,305.1
15	Build IT Applications & Infrastructure	2F	17,570.2	42,151.9	24,581.7
16	Energy Storage Capital	3R	0.0	205.6	205.6
17	Electric Distribution WRO Rule 20A	30	33,420.2	38,272.6	4,852.4
18	Electric Distribution Substation Capacity	46	33,678.1	35,574.1	1,896.0
19	Electric Distribution Substation Replace Other Equipment	48	49,406.9	77,617.7	28,210.8
20	Electric Distribution Reliability Circuit/Zone	49	35,603.4	111,792.0	76,188.7
21	Electric Distribution Substation Transformer Replacements	54	5,513.0	31,817.9	26,304.9
22	Electric Distribution Underground (UG) Asset Replacements	56	98,750.8	79,923.7	(18,827.2)
23	Electric Distribution Substation Safety and Security	58	4,609.9	3,369.0	(1,240.9)
24	Electric Distribution Substation Emergency Replacement	59	62,612.4	119,133.5	56,521.0
25	Electric Operations Control Center Facility and Operations Technology	63	36,915.1	45,490.7	8,575.6
26	Install New Gas Meters	74	0.0	18,218.1	18,218.1
27	Electric Distribution Major Emergency	95	55,086.2	64,256.8	9,170.6
28	**Total**		**2,217,675.9**	**2,924,031.5**	**706,355.6**

C. Comparison by MAT Code for Safety, Reliability, and Maintenance Work Tables

TABLE 3-3
ELECTRIC DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
1	AB	Support and EP&R	#	Not assigned	SRM Total	SRM Total	4-18	$ 17,717.0	$ 51,279.6	$ 33,562.7	189.4%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenses exceeded imputed adopted amounts due to increased costs for outside services to support business objectives, costs for PSPS that were forecast in MAT AB6 but recorded in MAT AB#, and federal land authorization costs not included in the 2020 GRC forecast. Additionally, the imputed regulatory value contains a consolidated negative forecast for expected expense efficiency offsets which are not tracked or recorded in MWC AB.	Below variance threshold.
2	AB	Support and EP&R	#	Not assigned	RAMP Risk: DOCP Mitigation	M3 - Additional Public Awareness Outreach	4-18	$ 43.5	$ 491.5	$ 448.0	1029.7%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	AB	Support and EP&R	#	Not assigned	RAMP Risk: WF Mitigation	M13 - Public Safety Power Shutoff	4-3	$ -	$ 4,359.3	$ 4,359.3	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	AB	Support and EP&R	#	Not assigned	RAMP Risk: WF Mitigation	M28 - CWSP Program Management Office	4-18	$ 8,249.8	$ -	$ (8,249.8)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	AB	Support and EP&R	#	Not assigned	RAMP Risk: WF Mitigation	Post 2020 GRC Mitigations	N/A	$ -	$ 297.7	$ 297.7	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	AB	Support and EP&R	AB6	EP&R Expense	SRM Total	SRM Total	4-3	$ 48,759.9	$ 7,580.7	$ (41,179.1)	-84.5%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenses were below imputed regulatory values due to wildfire mitigation activities being recorded in MWC IG instead of MWC AB. Recorded amount is primarily for EP&R base activities.	Below variance threshold.
7	AB	Support and EP&R	AB6	EP&R Expense	RAMP Risk: WF Mitigation	M13 - Public Safety Power Shutoff	4-3	$ 6,094.2	$ 24.8	$ (6,069.5)	-99.6%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	AB	Support and EP&R	AB6	EP&R Expense	RAMP Risk: WF Mitigation	M18 - Wildfire Safety Operations Center	4-3	$ 6,002.6	$ -	$ (6,002.6)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	AB	Support and EP&R	AB6	EP&R Expense	RAMP Risk: WF Mitigation	M19 - Expanded Weather Station Deployment	4-3	$ 558.5	$ -	$ (558.5)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	AB	Support and EP&R	AB6	EP&R Expense	RAMP Risk: WF Mitigation	M20 - SOPP Model Automation	4-3	$ 292.6	$ -	$ (292.6)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	AB	Support and EP&R	AB6	EP&R Expense	RAMP Risk: WF Mitigation	M21 - Advanced Fire Modeling	4-3	$ 1,154.3	$ -	$ (1,154.3)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	AB	Support and EP&R	AB6	EP&R Expense	RAMP Risk: WF Mitigation	M22 - Wildfire Cameras	4-3	$ 14,361.9	$ -	$ (14,361.9)	-100.0%	180	0	(180)	-100.0%	N/A	N/A	N/A	N/A	N/A
13	AB	Support and EP&R	AB6	EP&R Expense	RAMP Risk: WF Mitigation	M23 - Satellite Fire Detection System	4-3	$ 292.6	$ -	$ (292.6)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	AB	Support and EP&R	AB6	EP&R Expense	RAMP Risk: WF Mitigation	M24 - Enhanced Wire Down Detection	4-3	$ 212.8	$ -	$ (212.8)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15	AB	Support and EP&R	AB6	EP&R Expense	RAMP Risk: WF Mitigation	M25 - Wildfire and Infrastructure Protection Teams	4-3	$ 13,325.7	$ -	$ (13,325.7)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16	AR	Read & Investigate Meters	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	6-6	$ -	$ 10,095.5	$ 10,095.5	100.0%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenses exceeded imputed regulatory values due to transfer of this program from Customer Care to Electric Distribution in 2018.	Below variance threshold.
17	BA	Electric Distribution Operation Activities	#	Not assigned	SRM Total	SRM Total	4-5	$ -	$ -	$ -	0.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
18	BA	Electric Distribution Operation Activities	#	Not assigned	RAMP Risk: WF Mitigation	M14 - Reclose Blocking	4-5	$ -	$ -	$ -	0.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	BA	Electric Distribution Operation Activities	BAF	General Operations	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-5	$ 21,343.7	$ 26,588.1	$ 5,244.3	24.6%	N/A	N/A	N/A	N/A	NO	YES	N/A	Program expenses exceeded imputed regulatory values due to a shortage in distribution system operator resources, which resulted in overtime or double-time to cover vacant shifts. COVID-19 illness and safety measures increased operating costs due to employee down time and staffing of temporary control centers.	Below variance threshold.
20	BA	Electric Distribution Operation Activities	BAH	FLISR Maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-5	$ -	$ 3,428.6	$ 3,428.6	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.

TABLE 3-3
ELECTRIC DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
21	BF	Electric Distribution Patrols and Inspections	BF3	UG BART Cable Test/Insp	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 39.8	$ -	$ (39.8)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
22	BF	Electric Distribution Patrols and Inspections	BF4	UG Auto Transfer Switch Test/Insp	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 97.8	$ 85.4	$ (12.4)	-12.7%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
23	BF	Electric Distribution Patrols and Inspections	BFA	OH Poles Patrolled	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 4,802.6	$ 6,543.8	$ 1,741.2	36.3%	1,502,599	1,650,872	148,273	9.9%	NO	NO	NO	Below variance threshold.	Below variance threshold.
24	BF	Electric Distribution Patrols and Inspections	BFB	OH Poles Inspected	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 13,281.7	$ 93,970.4	$ 80,688.6	607.5%	493,600	679,096	185,496	37.6%	YES	YES	YES	Program expenses exceeded imputed regulatory values due to increased number and cost of inspections, driven by new enhanced inspection process, and increased inspections in the high fire threat areas.	Program units exceeded imputed regulatory values due to increased number of inspections, driven by new enhanced inspection process, and increased inspections in the high fire threat areas.
25	BF	Electric Distribution Patrols and Inspections	BFC	OH Infrared Inspections	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 2,190.8	$ 1,561.3	$ (629.5)	-28.7%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
26	BF	Electric Distribution Patrols and Inspections	BFD	UG Enclosures Patrolled	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 985.6	$ 2,166.5	$ 1,180.8	119.8%	184,104	259,023	74,919	40.7%	NO	NO	YES	Below variance threshold.	Program units exceeded imputed regulatory values due to increased number of patrols, driven by new requirements in the high fire threat areas.
27	BF	Electric Distribution Patrols and Inspections	BFE	UG Infrared Inspections	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 5,239.0	$ 11,345.2	$ 6,106.2	116.6%	60,956	170,262	109,306	179.3%	NO	YES	YES	Program expenses exceeded imputed regulatory values due to decision to move padmount equipment back to a 3 year inspection cycle instead of 5 year per GO 165.	Program units exceeded imputed regulatory values due to increased number of inspections, driven by padmount equipment moved back to a 3 year inspection cycle instead of 5 year cycle per GO 165.
28	BF	Electric Distribution Patrols and Inspections	BFF	UG Line Equipment Insp/Test	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 559.0	$ 611.6	$ 52.6	9.4%	2,415	1,272	(1,143)	-47.3%	NO	NO	YES	Below variance threshold.	Program units less than imputed regulatory value due to manhole inspection totals remaining at pre-2020 levels.
29	BF	Electric Distribution Patrols and Inspections	BFG	OH Line Equipment Insp/Test	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 2,742.6	$ 2,574.2	$ (168.4)	-6.1%	24,288	24,577	289	1.2%	NO	NO	NO	Below variance threshold.	Below variance threshold.
30	BF	Electric Distribution Patrols and Inspections	BFH	Inspection Projects	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 2,724.5	$ 40,699.0	$ 37,974.5	1393.8%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenses exceeded imputed regulatory values due to significant project costs related to the implementation of the 2019 WSIP program in the High Fire Threat District. These are costs associated with the transition to enhanced inspection protocols including audits and oversight costs.	Below variance threshold.
31	BF	Electric Distribution Patrols and Inspections	BFJ	OH Patrol ORT Post Outage	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 420.8	$ 155.7	$ (265.1)	-63.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
32	BF	Electric Distribution Patrols and Inspections	BFL	SB WF Patrols	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ -	$ 0.3	$ 0.3	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
33	BH	Electric Distribution Routine Emergency	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 57,276.1	$ 67,075.2	$ 9,799.1	17.1%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
34	BK	Maintenance of Other Equip	BKA	Line Equipment Overhauls (Emeryville)	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 1,203.3	$ 1,547.1	$ 343.7	28.6%	1,175	864	(311)	-26.5%	NO	NO	YES	Below variance threshold.	Program actual units were lower than imputed adopted due to shift in work to field repairs and scrapping caused by storm and wildfire recovery activities.
35	BK	Maintenance of Other Equip	BKJ	Line Equipment Overhauls (Division Up/Down Labor) (Emeryville)	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 397.6	$ 204.5	$ (193.0)	-48.6%	89	117	28	31.5%	NO	NO	YES	Below variance threshold.	Program actual units were lower than imputed adopted units due to shift in work to field repairs and scrapping caused by storm and wildfire damage.
36	BK	Maintenance of Other Equip	BKK	Equip Warranty Repair (Emeryville)	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 61.6	$ 99.9	$ 38.3	62.2%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
37	DD	Customer Field Service Work	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-5	$ 5,799.2	$ 6,778.2	$ 979.0	16.9%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
38	DD	Customer Field Service Work	DDC	Electric Start/Stop	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-5	$ -	$ 399.8	$ 399.8	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
39	DD	Customer Field Service Work	DDH	Electric Trouble Customer Equipment	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-5	$ 5,767.2	$ 5,743.0	$ (24.2)	-0.4%	47,535	32,876	(14,659)	-30.8%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed adopted units due to fewer outages caused by customer equipment in 2020. This is demand driven work and has many variables (customers equipment condition, business activity, weather, activation of emergency center), and PG&E responded to outages as they occurred.
40	DD	Customer Field Service Work	DDJ	Swing Service, Disconnects/Reconnects	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-5	$ 8,814.7	$ 10,684.4	$ 1,869.8	21.2%	80,818	76,496	(4,322)	-5.3%	NO	NO	NO	Below variance threshold.	Below variance threshold.

TABLE 3-3
ELECTRIC DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
41	DN	Develop & Provide Training	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	N/A	$ -	$ 168.0	$ 168.0	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
42	EY	Change/Maintenance Used Electric Meter	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	6-6	$ -	$ 6,808.5	$ 6,808.5	100.0%	N/A	N/A	N/A	N/A	NO	YES	N/A	Program expenses exceeded imputed regulatory values due to transfer of this program from Customer Care to Electric Distribution in 2018.	Below variance threshold.
43	FZ	Electric Distribution Engineering and Planning	FZA	General Engineering	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 14,409.5	$ 13,363.3	$ (1,046.2)	-7.3%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
44	FZ	Electric Distribution Engineering and Planning	FZB	Voltage Complaints Investigations	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 589.5	$ 1,127.4	$ 537.9	91.2%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
45	FZ	Electric Distribution Engineering and Planning	FZC	Transformer Reports Manage	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 14.0	$ 28.0	$ 14.0	99.9%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
46	FZ	Electric Distribution Engineering and Planning	FZD	Field Work Plan	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 574.0	$ 287.7	$ (286.3)	-49.9%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
47	FZ	Electric Distribution Engineering and Planning	FZE	Troublemen Field Work	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 1,386.5	$ 1,838.3	$ 451.8	32.6%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
48	GA	Poles – Intrusive Inspection/Test and Treat Program	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ (4,187.8)	$ (4,018.1)	$ 169.7	-4.1%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
49	GA	Poles – Intrusive Inspection/Test and Treat Program	GAA	Intrusive Inspection Program	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 12,435.4	$ 17,446.7	$ 5,011.2	40.3%	246,252	238,253	(7,999)	-3.2%	NO	YES	NO	Program expenses exceeded imputed regulatory values due to process changes that included the requirement to have Locate & Mark physically assess each pole prior to soil disturbance during the intrusive inspections, as well as costs for unexpected inspections of unique pole projects (e.g. streetlight only poles, poles within substation boundaries, etc.).	Below variance threshold.
50	GA	Poles – Intrusive Inspection/Test and Treat Program	GAB	Pole Joint Util Maint Reimbursement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ -	$ 473.3	$ 473.3	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
51	GA	Poles – Intrusive Inspection/Test and Treat Program	GAC	Pole Analyze Loading	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ -	$ 13,111.8	$ 13,111.8	100.0%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenses exceeded imputed regulatory values due to the implementation of new pole loading program not included in the 2020 GRC which incorporates wind loading into pole loading calculations.	Below variance threshold.
52	GA	Poles – Intrusive Inspection/Test and Treat Program	GAD	Pole Restoration Program	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ 4,902.0	$ 4,783.5	$ (118.5)	-2.4%	5,464	4,402	(1,062)	-19.4%	NO	NO	NO	Below variance threshold.	Below variance threshold.
53	GA	Poles – Intrusive Inspection/Test and Treat Program	GAF	Telco Engr Review Non-Reimbursed	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ 163.1	$ -	$ (163.1)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
54	GA	Poles – Intrusive Inspection/Test and Treat Program	GAH	Pole Joint Util Maint Non-Reim	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ 271.8	$ 329.3	$ 57.4	21.1%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
55	GC	Operate and Maintain Substations	GC1	ED Substation Engineering Maintenance Support	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 4,492.2	$ 4,996.8	$ 504.7	11.2%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
56	GC	Operate and Maintain Substations	GC2	ED Substation Major Emergency Corrective Maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 4,701.3	$ 11,960.1	$ 7,258.8	154.4%	N/A	N/A	N/A	N/A	NO	YES	N/A	Program costs exceeded imputed regulatory values due to increased number of inspections, driven by new enhanced inspection process, and increased inspections in the high fire threat areas, which resulted in increased amount of corrective maintenance work.	Below variance threshold.
57	GC	Operate and Maintain Substations	GCA	ED Substation: TXfmr - preventive maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 878.3	$ 948.6	$ 70.4	8.0%	4,311	4,557	246	5.7%	NO	NO	NO	Below variance threshold.	Below variance threshold.
58	GC	Operate and Maintain Substations	GCB	ED Substation: Breaker - preventive maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 742.1	$ 559.1	$ (183.0)	-24.7%	1,791	1,365	(426)	-23.8%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to fewer breaker units requiring preventive maintenance.
59	GC	Operate and Maintain Substations	GCC	ED Substation: Relay - preventive maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 2,164.2	$ 2,294.0	$ 129.9	6.0%	1,177	1,408	231	19.6%	NO	NO	NO	Below variance threshold.	Below variance threshold.
60	GC	Operate and Maintain Substations	GCD	ED Substation: Inspections	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 2,556.9	$ 4,924.0	$ 2,367.1	92.6%	8,002	6,996	(1,006)	-12.6%	NO	NO	NO	Below variance threshold.	Below variance threshold.

TABLE 3-3
ELECTRIC DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
61	GC	Operate and Maintain Substations	GCE	ED Substation: General station preventive maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 436.9	$ 438.9	$ 2.0	0.5%	1,014	1,187	173	17.1%	NO	NO	NO	Below variance threshold.	Below variance threshold.
62	GC	Operate and Maintain Substations	GCF	ED Substation: Batteries - preventive maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 298.0	$ 435.6	$ 137.5	46.1%	646	1,171	525	81.3%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to increased number of breaker units requiring mechanism servicing.
63	GC	Operate and Maintain Substations	GCG	ED Substation Vegetation Management	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 1,479.1	$ 7,431.3	$ 5,952.3	402.4%	N/A	N/A	N/A	N/A	NO	YES	N/A	Program costs exceeded imputed regulatory values due to an expansion of vegetation management activities to achieve defensible space and other clearance activities in HFTD areas.	Below variance threshold.
64	GC	Operate and Maintain Substations	GCH	ED Substation Building Maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 951.1	$ 1,656.8	$ 705.7	74.2%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
65	GC	Operate and Maintain Substations	GCI	ED Substation: Switches preventive maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 61.3	$ 68.0	$ 6.8	11.1%	91	104	13	14.3%	NO	NO	NO	Below variance threshold.	Below variance threshold.
66	GC	Operate and Maintain Substations	GCJ	ED Substation: Corrective (T80)	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 7,460.2	$ 11,173.9	$ 3,713.7	49.8%	7,469	4,461	(3,008)	-40.3%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to fewer issues identified than planned in substations. This reduction is in part attributed to the overlap from the WSIP identified issues corrected in 2019. In addition, there is overall variability in corrective work.
67	GC	Operate and Maintain Substations	GCM	ED Substation Breaker Mechanism Services	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 822.4	$ 1,543.8	$ 721.4	87.7%	441	753	312	70.7%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due a higher volume of circuit breaker services undertaken. Assets are predetermined for maintenance activities using a time-based approach; however, maintenance plans include condition based triggers that may warrant accelerating the maintenance schedules.
68	GC	Operate and Maintain Substations	GCO	ED Substation Transformer Overhaul Inspections	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 1,483.8	$ 540.6	$ (943.2)	-63.6%	160	49	(111)	-69.4%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to fewer Load Tap Changer (LTC) overhaul inspections undertaken. LTC inspections are projected based on anticipated LTC operations counter. The volume of LTCs exceeding their thresholds based on make and model was less than projected.
69	GC	Operate and Maintain Substations	GCS	ED Substation CKSW MOAS Mechanism Services	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 116.1	$ 193.0	$ 76.8	66.1%	49	90	41	83.7%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due a higher volume of circuit switcher and motor operated air switch mechanism services undertaken. Assets are predetermined for maintenance activities using a time-based approach; however, maintenance plans include condition based triggers that may warrant accelerating the maintenance schedules.
70	GC	Operate and Maintain Substations	GCV	ED Substation Breaker Overhauls	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 83.0	$ 72.3	$ (10.7)	-12.8%	17	15	(2)	-11.8%	NO	NO	NO	Below variance threshold.	Below variance threshold.
71	GC	Operate and Maintain Substations	GCW	ED Substation Station Washes	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 397.7	$ 371.5	$ (26.2)	-6.6%	444	422	(22)	-5.0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
72	GE	Electric Distribution Mapping	#	Not assigned	SRM Total	SRM Total	4-18	$ -	$ 3,899.0	$ 3,899.0	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
73	GE	Electric Distribution Mapping	#	Not assigned	RAMP Risk: WF Mitigation	Post 2020 GRC Mitigations	4-18	$ -	$ 3,037.3	$ 3,037.3	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
74	GE	Electric Distribution Mapping	GEO	Mapping	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-18	$ 5,899.0	$ 4,946.0	$ (952.9)	-16.2%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
75	GE	Electric Distribution Mapping	GEP	Records Management	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-18	$ -	$ -	$ -	0.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.

TABLE 3-3
ELECTRIC DISTRIBUTION 2020 EXPENSE COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
76	HG	Electric Distribution Operational Technology	#	Not assigned	SRM Total	SRM Total	4-5, 4-19	$ 10,947.8	$ 9.0	$ (10,938.8)	-99.9%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenses were lower than imputed regulatory values because work was recorded in new MAT codes HGC and HGD. Additionally, costs for wildfire risk mitigation M15 were recorded in MWC IG.	Below variance threshold.
77	HG	Electric Distribution Operational Technology	#	Not assigned	RAMP Risk: WF Mitigation	M15-Automation and Protection	4-5	$ 349.9	$ -	$ (349.9)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
78	HG	Electric Distribution Operational Technology	HGC	ADMS Development	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-19	$ -	$ 5,145.3	$ 5,145.3	100.0%	N/A	N/A	N/A	N/A	NO	YES	N/A	Program expenses were higher than imputed regulatory values because work was recorded in new MAT code HGC.	Below variance threshold.
79	HG	Electric Distribution Operational Technology	HGD	Distribution Operational Technology	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-5	$ -	$ 2,074.0	$ 2,074.0	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
80	HN	Vegetation Management Balancing Account	N/A	Not assigned	SRM Total	SRM Total	4-7	$ 548,012.6	$ 736,320.0	$ 188,307.4	34.4%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenses exceeded imputed regulatory values due to higher costs for tree workers due to SB 247 for Routine Tree work. Imputed amount also includes costs for Enhanced Vegetation Management, which were recorded in MWC IG, MAT IGI.	Below variance threshold.
81	HN	Vegetation Management Balancing Account	N/A	Not assigned	RAMP Risk: WF Mitigation RAMP Risk: DOCP Mitigation	M16 - Enhanced VM M8- Enhanced VM	4-7	$ 318,742.3	$ -	$ (318,742.3)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
82	HX	Distribution Automation & Protection Support	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-10	$ 2,048.3	$ 2,344.2	$ 295.9	14.4%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
83	HY	Perform Gas Meter Maintenance	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	6-6	$ -	$ 1,552.4	$ 1,552.4	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
84	IF	Electric Distribution Major Emergency	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-4	$ 33,743.5	$ 30,973.4	$ (2,770.1)	-8.2%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
85	IG	Various Balancing and Memorandum Accounts	#	Not assigned	SRM Total	SRM Total	N/A	$ -	$ 241,517.8	$ 241,517.8	100.0%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenses exceeded imputed regulatory values due to wildfire mitigation work forecast in MWC AB (MATs AB6 and AB#) being recorded in MWC IG. Expenses recorded in IG# include RAMP risk mitigation costs listed below, and costs associated with wildfire mitigation work not identified in the 2020 GRC.	Below variance threshold.
86	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M12 - Wildfire System Hardening	4-9	$ -	$ 255.2	$ 255.2	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
87	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M13 - Public Safety Power Shutoff	4-3	$ -	$ 157,506.6	$ 157,506.6	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
88	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M15 - Automation and Protection	4-5	$ -	$ 10.1	$ 10.1	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
89	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M18 - Wildfire Safety Operations Center	4-3	$ -	$ 4,347.8	$ 4,347.8	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
90	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M19 - Expanded Weather Station Deployment	4-3	$ -	$ 111.2	$ 111.2	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
91	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M20 - SOPP Model Automation	4-3	$ -	$ 1,627.1	$ 1,627.1	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 3-3
ELECTRIC DISTRIBUTION 2019 EXPENSE COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
92	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M21 - Advanced Fire Modeling	4-3	$ -	$ 5,541.3	$ 5,541.3	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
93	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M22 - Wildfire Cameras	4-3	$ -	$ 6,955.8	$ 6,955.8	100.0%	0	216	(216)	100.0%	N/A	N/A	N/A	N/A	N/A
94	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M24 - Enhanced Wire Down Detection	4-3	$ -	$ 3.7	$ 3.7	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
95	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M25 - Wildfire and Infrastructure Protection Teams	4-3	$ -	$ 15,341.9	$ 15,341.9	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
96	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	M28 - CWSP Program Management Office	4-18	$ -	$ 17,753.4	$ 17,753.4	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
97	IG	Various Balancing and Memorandum Accounts	#	Not assigned	RAMP Risk: WF Mitigation	Post 2020 GRC Mitigations	N/A	$ -	$ 32,063.8	$ 32,063.8	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
98	IG	Various Balancing and Memorandum Accounts	IGI	Dead and Dying Trees	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	N/A	$ -	$ 87,802.6	$ 87,802.6	0.0%	N/A	N/A	N/A	N/A	YES	NO	N/A	Program expenses exceeded imputed regulatory values due to costs for Tree Mortality work which were previously recovered in CEMA moving to the VMBA. No forecast for Tree Mortality work was included in the 2020 GRC.	Below variance threshold.
99	IG	Various Balancing and Memorandum Accounts	IGJ	Enhanced Vegetation Management	SRM Total	SRM Total	4-7	$ -	$ 454,705.4	$ 454,705.4	100.0%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenses exceeded imputed regulatory values due to imputed amount of $318M for Enhanced Vegetation Management being included in MWC HN, where it was forecast in the 2020 GRC, and increased costs for tree workers due to SB 247.	Below variance threshold.
100	IG	Various Balancing and Memorandum Accounts	IGJ	Enhanced Vegetation Management	RAMP Risk: WF Mitigation RAMP Risk: DOCP Mitigation	M16 - Enhanced VM M8- Enhanced VM	4-7	$ -	$ 454,705.4	$ 454,705.4	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
101	IS	Streetlight Support	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-18	$ 1,087.5	$ 708.5	$ (379.0)	-34.9%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
102	IU	Collect Revenue	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	6-6	$ -	$ 1,499.2	$ 1,499.2	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
103	JV	Maintain IT Applications & Infrastructure	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-15	$ 5,246.0	$ 2,489.5	$ (2,756.5)	-52.5%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
104	KA	Preventive Maintenance and Equipment Repair, OH	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 723.3	$ 1,820.8	$ 1,097.5	151.7%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
105	KA	Preventive Maintenance and Equipment Repair, OH	KAA	OH General CM Tag	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 18,598.6	$ 93,916.9	$ 75,318.3	405.0%	31,412	40,176	8,764	27.9%	YES	YES	YES	Program expenses exceeded imputed regulatory values due to costs associated with a higher volume of maintenance tags resulting from the 2019 Wildfire Safety Inspection Program (WSIP), higher volume of tags generated from enhanced inspection procedures, carry-over charges from 2019 work, and higher than planned unit costs.	Actual units were higher than imputed units due to a higher volume of completed maintenance tags resulting from the 2019 Wildfire Safety Inspection Program (WSIP), and higher volume of tags generated from enhanced inspection procedures.
106	KA	Preventive Maintenance and Equipment Repair, OH	KAC	Bird Safe Retrofit	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 739.4	$ 756.2	$ 16.8	2.3%	1,013	507	(506)	-50.0%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to fewer units required due to work completed in other programs that included bird mitigation, such as system hardening, including tree wire projects, and pole replacement in raptor concentration zones.
107	KA	Preventive Maintenance and Equipment Repair, OH	KAD	Bird Safe Retrofit Annual	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 729.9	$ 438.8	$ (291.1)	-39.9%	1,000	292	(708)	-70.8%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to fewer units required due to work completed in other programs that included bird mitigation, such as system hardening, including tree wire projects, and pole replacement in raptor concentration zones.
108	KA	Preventive Maintenance and Equipment Repair, OH	KAF	OH COE CM Tag	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 7,163.9	$ 6,271.7	$ (892.1)	-12.5%	1,419	1,203	(216)	-15.2%	NO	NO	NO	Below variance threshold.	Below variance threshold.

TABLE 3-3
ELECTRIC DISTRIBUTION 2019 EXPENSE COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
109	KA	Preventive Maintenance and Equipment Repair, OH	KAH	Streetlights Replace Burnouts	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 2,176.8	$ 1,602.8	$ (574.0)	-26.4%	14,702	7,789	(6,913)	-47.0%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to fewer burnouts driven by benefits from conversion of streetlights to LEDs.
110	KA	Preventive Maintenance and Equipment Repair, OH	KAK	RTVI Invest/Repair	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 106.3	$ 45.0	$ (61.3)	-57.7%	144	102	(42)	-29.2%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to fewer customer complaints than forecasted.
111	KA	Preventive Maintenance and Equipment Repair, OH	KAM	Insulators Washing	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 206.3	$ 47.5	$ (158.8)	-77.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
112	KA	Preventive Maintenance and Equipment Repair, OH	KAO	Idle Facilities Invest - Svc Planning	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 179.0	$ 681.0	$ 502.0	280.4%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
113	KA	Preventive Maintenance and Equipment Repair, OH	KAP	OH Expense Projects	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ -	$ 6,617.7	$ 6,617.7	100.0%	N/A	N/A	N/A	N/A	NO	YES	N/A	Program costs exceeded imputed adopted amounts due to emergent work related to replacing Line Recloser actuator circuit boards, which were identified in 2019 as a safety issue.	Below variance threshold.
114	KA	Preventive Maintenance and Equipment Repair, OH	KAQ	Wood Pole Bridge Bonding	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 27.2	$ 21.1	$ (6.1)	-22.5%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
115	KA	Preventive Maintenance and Equipment Repair, OH	KAS	FAS Overhead Expense	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 1,798.0	$ 1,681.3	$ (116.6)	-6.5%	10,333	9,207	(1,126)	-10.9%	NO	NO	NO	Below variance threshold.	Below variance threshold.
116	KB	Preventive Maintenance and Equipment Repair, UG	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 644.5	$ 241.0	$ (403.5)	-62.6%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
117	KB	Preventive Maintenance and Equipment Repair, UG	KBA	UG General Corrective Maintenance (CM) Tag	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 10,801.7	$ 11,881.3	$ 1,079.6	10.0%	6,188	4,813	(1,375)	-22.2%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to re-prioritization of work plan to address other higher risk maintenance work.
118	KB	Preventive Maintenance and Equipment Repair, UG	KBC	UG COE CM Tag	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 854.2	$ 929.3	$ 75.2	8.8%	248	165	(83)	-33.5%	NO	NO	YES	Below variance threshold.	Program actual units were below imputed adopted units due to prioritization of resources to Tier 2 and Tier 3 HFTD area repairs and replacement work.
119	KB	Preventive Maintenance and Equipment Repair, UG	KBD	Nitrogen Cylinders CM	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 21.4	$ 47.1	$ 25.7	119.8%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
120	KB	Preventive Maintenance and Equipment Repair, UG	KBE	BART Cable Repair	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 60.0	$ 9.6	$ (50.4)	-84.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
121	KB	Preventive Maintenance and Equipment Repair, UG	KBP	UG Expense Projects	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 155.4	$ 38.7	$ (116.7)	-75.1%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
122	KB	Preventive Maintenance and Equipment Repair, UG	KBQ	Elbows/Splices Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ -	$ 0.2	$ 0.2	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
123	KC	Preventive Maintenance and Equipment Repair, Network	KCA	Network Equip CM Notifications	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 153.8	$ 135.6	$ (18.2)	-11.8%	75	41	(34)	-45.3%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to lower than expected abnormal conditions reported from the field.
124	KC	Preventive Maintenance and Equipment Repair, Network	KCB	Network Oil Repl & 60Day F/U	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 31.5	$ 133.5	$ 102.0	323.8%	27	197	170	629.6%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to preparation for upcoming SCADA work on the J Network Group. Work required oil replacement and 60-day follow-up retorque tags.

TABLE 3-3
ELECTRIC DISTRIBUTION 2019 EXPENSE COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
125	KC	Preventive Maintenance and Equipment Repair, Network	KCC	Network Vault CM Notifications	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 159.8	$ 70.2	$ (89.6)	-56.1%	79	10	(69)	-87.3%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to lower than expected adverse vault conditions found in the field. Based on data from tags, mostly major vault work was reported (i.e. biohazard clean up) in 2020. Minor work (i.e. eyebolts, light bulbs) was not reported as much as in previous years.
126	KC	Preventive Maintenance and Equipment Repair, Network	KCD	Network Xfmr Preventive Maintenance/Restore	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 2,480.9	$ 2,985.7	$ 504.8	20.3%	3,618	3,542	(76)	-2.1%	NO	NO	NO	Below variance threshold.	Below variance threshold.
127	KC	Preventive Maintenance and Equipment Repair, Network	KCE	Network Protector Preventive Maintenance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 612.7	$ 842.4	$ 229.7	37.5%	390	402	12	3.1%	NO	NO	NO	Below variance threshold.	Below variance threshold.
128	KC	Preventive Maintenance and Equipment Repair, Network	KCF	Fiber/SCADA Comm Repair	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 586.7	$ 723.4	$ 136.7	23.3%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.

TABLE 3-4
ELECTRIC DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
1	05	Tools & Equipment	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-18	$ 7,397.5	$ 6,711.0	$ (686.5)	-9.3%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
2	06	Electric Distribution Line and Equipment Capacity	06A	Fdr Prj Assoc w/Subst Capacity	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 7,892.4	$ 11,131.6	$ 3,239.3	41.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
3	06	Electric Distribution Line and Equipment Capacity	06B	Transformer Repl Overloaded	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 664.0	$ 858.9	$ 195.0	29.4%	50	17	(33)	-66.0%	NO	NO	YES	Below variance threshold.	Program actual units were below imputed adopted units due to less overhead transformer replacement work due to work deferral associated with COVID-19, and resource constraints due to focus on wildfire mitigation and maintenance work. In addition, several replacement projects were still in flight at the end of 2020.
4	06	Electric Distribution Line and Equipment Capacity	06D	Circuits Reinforce-DP Managed	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 3,421.6	$ 2,015.1	$ (1,406.5)	-41.1%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
5	06	Electric Distribution Line and Equipment Capacity	06E	Circuits Reinforce-PS Managed	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 18,350.2	$ 21,097.7	$ 2,747.5	15.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
6	06	Electric Distribution Line and Equipment Capacity	06G	Voltage Correct Secondary	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 3,209.1	$ 2,174.0	$ (1,035.2)	-32.3%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
7	06	Electric Distribution Line and Equipment Capacity	06H	Dist Line New Business Performance	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 44,338.0	$ 53,781.5	$ 9,443.5	21.3%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
8	06	Electric Distribution Line and Equipment Capacity	06I	Operational Capacity Proj	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 3,482.1	$ 4,510.6	$ 1,028.5	29.5%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
9	06	Electric Distribution Line and Equipment Capacity	06K	Power Factor Management	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 1,100.0	$ 42.9	$ (1,057.0)	-96.1%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
10	06	Electric Distribution Line and Equipment Capacity	06P	Enable DG Dist Line	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 1,322.1	$ 930.2	$ (391.9)	-29.6%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
11	06	Electric Distribution Line and Equipment Capacity	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 7,014.1	$ 10,713.5	$ 3,699.4	52.7%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
12	07	Electric Distribution Install/Replace Overhead Poles	07C	Special Criteria Pole Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ -	$ 21.3	$ 21.3	100.0%	0	0	0	0.0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
13	07	Electric Distribution Install/Replace Overhead Poles	07D	Pole Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ 108,278.6	$ 238,785.9	$ 130,507.4	120.5%	7,926	9,607	1,681	21.2%	YES	YES	YES	Program expenditures exceeded imputed regulatory values due to higher volume of deteriorated units identified during the 2019 WSIP inspections, and higher unit costs for pole replacements. The additional units identified were in HFTDs and the program was expanded to increase replacements in efforts to reduce overall system risk.	Actual units were higher than imputed units due to higher volume of deteriorated units identified during the 2019 WSIP inspections. The additional units identified were in HFTDs and the program was expanded to increase replacements in efforts to reduce overall system risk.
14	07	Electric Distribution Install/Replace Overhead Poles	07G	Pole Joint Util Telco Reimb	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ -	$ (4.2)	$ (4.2)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
15	07	Electric Distribution Install/Replace Overhead Poles	07L	Steel Lattice Structures	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ -	$ 116.0	$ 116.0	100.0%	0	0	0	0.0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
16	07	Electric Distribution Install/Replace Overhead Poles	07O	Overloaded Pole Replacements	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ -	$ 11,114.4	$ 11,114.4	100.0%	0	288	288	100.0%	NO	YES	YES	Program expenditures exceeded imputed regulatory values due to the forecast for overloaded poles being in MAT 07D in the 2020 GRC.	Program units exceeded imputed regulatory values due to the forecast for overloaded poles being in MAT 07D in the 2020 GRC.
17	07	Electric Distribution Install/Replace Overhead Poles	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-8	$ -	$ (3,451.0)	$ (3,451.0)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.

TABLE 3-4
ELECTRIC DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
18	08	Electric Distribution Overhead Asset Replacement	08F	Do Not Use - Cornerstone	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ -	$ 9.8	$ 9.8	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
19	08	Electric Distribution Overhead Asset Replacement	08J	Repl Deteriorated OH Conductor	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ 50,215.6	$ 16,555.6	$ (33,660.0)	-67.0%	95	29	(66)	-69.5%	YES	YES	YES	Program expenditures were below imputed regulatory values due to work deferral associated with COVID-19, and shifting of resources to support higher priority work such as System Hardening, WSIP tags, pole replacements, and PSPS.	Program units were below imputed regulatory values due to work deferral associated with COVID-19, and shifting of resources to support higher priority work such as System Hardening, WSIP tags, pole replacements, and PSPS.
20	08	Electric Distribution Overhead Asset Replacement	08S	Replace Obsolete OH Switches	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ 1,094.6	$ 536.0	$ (558.6)	-51.0%	30	10	(20)	-66.7%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to shifting of resources to support higher priority work such as System Hardening, WSIP tags, and PSPS.
21	08	Electric Distribution Overhead Asset Replacement	08W	System Hardening Wildfire Resiliency projects	SRM Total	SRM Total	4-9	$ 493,225.0	$ 484,810.4	$ (8,414.6)	-1.7%	221	338	117	52.9%	NO	NO	YES	Below variance threshold.	The increase in units was due to the response to the 2020 lightning complex wildfires. Following those events, a new strategy was engaged to rebuild much of the damaged areas in compliance with the Fire Rebuild Design guidance where significant damage was assessed. These additional miles were funded in 08W alongside the normal planned units whilst the excess planned units were postponed until future years.
22	08	Electric Distribution Overhead Asset Replacement	08W	System Hardening Wildfire Resiliency projects	RAMP Risk: WF Mitigation	M12 - Wildfire System Hardening	4-9	$ 493,225.0	$ 484,755.5	$ (8,469.5)	-1.7%	221	338	117	52.9%	N/A	N/A	N/A	N/A	N/A
23	08	Electric Distribution Overhead Asset Replacement	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ -	$ (541.2)	$ (541.2)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
24	09	Electric Distribution Automation & Protection	09A	ED Line SCADA Install/Replace	SRM Total	SRM Total	4-10	$ 5,517.7	$ 66.6	$ (5,451.1)	-98.8%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
25	09	Electric Distribution Automation & Protection	09A	ED Line SCADA Install/Replace	RAMP Risk: WF Mitigation	M15 - Automation and Protection	4-10	$ -	$ 50.6	$ 50.6	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26	09	Electric Distribution Automation & Protection	09B	ED Sub SCADA/RTU Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-10	$ 14,445.2	$ 11,428.8	$ (3,016.3)	-20.9%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
27	09	Electric Distribution Automation & Protection	09D	ED Sub SCADA/RTU Install	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-10	$ 9,405.4	$ 14,307.2	$ 4,901.8	52.1%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
28	09	Electric Distribution Automation & Protection	09E	ED Sub Protect Relay Install/Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-10	$ 3,314.7	$ 3,617.4	$ 302.6	9.1%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
29	09	Electric Distribution Automation & Protection	09F	ED Sub SCADA Emergency Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-10	$ 1,161.6	$ 8,083.9	$ 6,922.4	595.9%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
30	17	Electric Distribution Routine Emergency	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-4	$ 183,518.1	$ 247,499.6	$ 63,981.5	34.9%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenditures exceeded imputed values due to higher than forecast volume of emergency events, driving higher overall contract spend, higher estimating over head costs, and higher labor charges.	Below variance threshold.
31	21	Miscellaneous Capital and Emergency Preparedness & Response	#	Not assigned	SRM Total	SRM Total	4-18	$ (26,116.0)	$ 1,685.2	$ 27,801.2	-106.5%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenditures exceeded imputed adopted amounts due to the inclusion of capital efficiencies in MWC 21 in the 2020 GRC filing resulting in a negative imputed value. Any efficiencies achieved would be captured in the areas impacted by the process change and would not materialize in MWC 21. The recorded costs in MWC 21 represent the cost for emergency and preparedness response work not assigned to a mitigation for electric distribution in 2020.	Below variance threshold.
32	21	Miscellaneous Capital and Emergency Preparedness & Response	#	Not assigned	RAMP Risk: WF Mitigation	M19 - Expanded Weather Station Deployment	4-3	$ 6,300.0	$ -	$ (6,300.0)	-100.0%	300	0	(300)	-100.0%	N/A	N/A	N/A	N/A	N/A
33	21	Miscellaneous Capital and Emergency Preparedness & Response	#	Not assigned	RAMP Risk: WF Mitigation	M21 - Advanced Fire Modeling	4-3	$ 4,200.0	$ -	$ (4,200.0)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 3-4
ELECTRIC DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
34	21	Miscellaneous Capital and Emergency Preparedness & Response	#	Not assigned	RAMP Risk: WF Mitigation	M24 - Enhanced Wire Down Detection	4-3	$ -	$ 406.1	$ 406.1	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
35	21	Miscellaneous Capital and Emergency Preparedness & Response	#	Not assigned	RAMP Risk: WF Mitigation	M28 - CWSP Program Management Office	4-3	$ 554.9	$ -	$ (554.9)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
36	21	Miscellaneous Capital and EP&R	21A	EP&R Capital	SRM Total	SRM Total	4-3	$ 1,187.3	$ 16,803.4	$ 15,616.1	1315.2%	N/A	N/A	N/A	N/A	NO	YES	N/A	Program expenditures exceeded imputed regulatory values due in large part to wildfire mitigations that were forecast in MAT 21# being recorded in MAT 21A.	Below variance threshold.
37	21	Miscellaneous Capital and EP&R	21A	EP&R Capital	RAMP Risk: WF Mitigation	M13 - Public Safety Power Shutoff	4-3	$ -	$ 2,396.9	$ 2,396.9	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
38	21	Miscellaneous Capital and EP&R	21A	EP&R Capital	RAMP Risk: WF Mitigation	M18 - Wildfire Safety Operations Center	4-3	$ -	$ (34.1)	$ (34.1)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39	21	Miscellaneous Capital and EP&R	21A	EP&R Capital	RAMP Risk: WF Mitigation	M19 - Expanded Weather Station Deployment	4-3	$ -	$ 8,334.3	$ 8,334.3	100.0%	0	404	404	100.0%	N/A	N/A	N/A	N/A	N/A
40	21	Miscellaneous Capital and EP&R	21A	EP&R Capital	RAMP Risk: WF Mitigation	M21 - Advanced Fire Modeling	4-3	$ -	$ 898.8	$ 898.8	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
41	21	Miscellaneous Capital and EP&R	21A	EP&R Capital	RAMP Risk: WF Mitigation	M24 - Enhanced Wire Down Detection	4-3	$ -	$ 809.5	$ 809.5	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
42	21	Miscellaneous Capital and EP&R	21A	EP&R Capital	RAMP Risk: WF Mitigation	M25 - Wildfire and Infrastructure Protection Teams	4-3	$ -	$ 1,253.9	$ 1,253.9	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
43	21	Miscellaneous Capital and EP&R	21A	EP&R Capital	RAMP Risk: WF Mitigation	Post 2020 GRC Mitigations	N/A	$ -	$ 2,626.2	$ 2,626.2	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
44	21	Miscellaneous Capital and EP&R	21B	Capital projects for other LOB	SRM Total	SRM Total	4-3	$ -	$ (19.4)	$ (19.4)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
45	21	Miscellaneous Capital and EP&R	21B	Capital projects for other LOB	RAMP Risk: WF Mitigation	M19 - Expanded Weather Station Deployment	4-3	$ -	$ (19.4)	$ (19.4)	-100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
46	25	Install New Electric Meters	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	6-6	$ -	$ 24,204.9	$ 24,204.9	100.0%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenses exceeded imputed regulatory values due to transfer of this program from Customer Care to Electric Distribution in 2018.	Below variance threshold.
47	2A	Electric Distribution Preventive Maintenance OH	2AA	OH General Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 58,169.3	$ 179,549.3	$ 121,380.1	208.7%	12,079	13,716	1,637	13.6%	YES	YES	NO	Program expenditures exceeded imputed adopted amounts due to higher volume of tags and contract use due to higher demand (Tier 2 and Tier 3 HFTD area tag volume) than resources available.	Below variance threshold.
48	2A	Electric Distribution Preventive Maintenance OH	2AB	Bird Safe Install/Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 3,084.3	$ 1,997.0	$ (1,087.3)	-35.3%	1,211	500	(711)	-58.7%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to resource scheduling on higher priority WSIP tags and PSPS events.
49	2A	Electric Distribution Preventive Maintenance OH	2AC	Bird Safe Install/Replace Annual	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 2,528.8	$ 5,977.3	$ 3,448.5	136.4%	990	399	(591)	-59.7%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to resource scheduling on higher priority WSIP tags and PSPS events.
50	2A	Electric Distribution Preventive Maintenance OH	2AE	OH COE Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 31,209.3	$ 44,510.0	$ 13,300.7	42.6%	1,465	1,102	(363)	-24.8%	NO	YES	YES	Program expenditures exceeded imputed adopted amounts due to higher use of contract resources.	Actual units were lower than imputed units due to resource scheduling on higher priority WSIP tags and PSPS events.
51	2A	Electric Distribution Preventive Maintenance OH	2AF	OH Idle Facility Remove	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 9,809.6	$ 5,867.5	$ (3,942.1)	-40.2%	2,219	673	(1,546)	-69.7%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to re-prioritization of work plan to address other higher risk maintenance work.
52	2A	Electric Distribution Preventive Maintenance OH	2AG	SF Series Streetlights	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ -	$ 29.8	$ 29.8	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
53	2A	Electric Distribution Preventive Maintenance OH	2AH	LED Streetlights	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ -	$ 2,519.9	$ 2,519.9	100.0%	0	8,204	8,204	100.0%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to the program extending beyond the forecasted completion in 2019.
54	2A	Electric Distribution Preventive Maintenance OH	2AI	SF Historical Streetlights	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ -	$ 477.5	$ 477.5	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
55	2A	Electric Distribution Preventive Maintenance OH	2AP	OH Capital Projects	SRM Total	SRM Total	4-6	$ 13,479.8	$ 8,368.3	$ (5,111.4)	-37.9%	625	643	18	2.9%	NO	NO	NO	Below variance threshold.	Below variance threshold.
56	2A	Electric Distribution Preventive Maintenance OH	2AP	OH Capital Projects - Non-exempt fuse replacement	RAMP Risk: WF Mitigation	M12 - Wildfire System Hardening	4-6	$ 5,425.2	$ 7,846.6	$ 2,421.4	44.6%	625	643	18	2.9%	N/A	N/A	N/A	N/A	N/A

TABLE 3-4
ELECTRIC DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
57	2A	Electric Distribution Preventive Maintenance OH	2AQ	Ceramic Post Insulators	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ -	$ 2,753.4	$ 2,753.4	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
58	2A	Electric Distribution Preventive Maintenance OH	2AR	Surge Arrester Replacement	SRM Total	SRM Total	4-6	$ 73,485.9	$ 63,498.0	$ (9,987.9)	-13.6%	19,340	14,362	(4,978)	-25.7%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to limitations in field variables concerning contractors performing work and change in strategy to prioritize work on more difficult units in Tier 2 and 3 HFTD areas.
59	2A	Electric Distribution Preventive Maintenance OH	2AR	Surge Arrester Replacement	RAMP Risk: WF Mitigation	M5 - Non-exempt Surge Arrester Replacement Program	4-6	$ 73,485.9	$ 63,498.0	$ (9,987.9)	-13.6%	19,340	14,362	(4,978)	-25.7%	N/A	N/A	N/A	N/A	N/A
60	2A	Electric Distribution Preventive Maintenance OH	2AS	FAS Overhead Capital	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 737.1	$ 213.7	$ (523.3)	-71.0%	2,328	1,271	(1,057)	-45.4%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to re-prioritization of work plan to address other higher risk maintenance work.
61	2A	Electric Distribution Preventive Maintenance OH	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ -	$ (1,153.3)	$ (1,153.3)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
62	2B	Electric Distribution Preventive Maintenance UG	2BA	UG General Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 44,603.1	$ 37,857.9	$ (6,745.2)	-15.1%	2,519	1,365	(1,154)	-45.8%	NO	NO	YES	Below variance threshold.	Program actual units were below imputed adopted units due to recategorization of fault indicators to MAT 2BB.
63	2B	Electric Distribution Preventive Maintenance UG	2BB	Fault Indicator Replacements	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 1,140.9	$ 646.4	$ (494.5)	-43.3%	3,796	3,060	(736)	-19.4%	NO	NO	NO	Below variance threshold.	Below variance threshold.
64	2B	Electric Distribution Preventive Maintenance UG	2BD	UG COE Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 5,761.3	$ 7,595.9	$ 1,834.6	31.8%	146	108	(38)	-26.0%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to resource scheduling on higher priority WSIP tags and PSPS events.
65	2B	Electric Distribution Preventive Maintenance UG	2BF	UG Idle Facility Remove	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 189.2	$ 175.8	$ (13.4)	-7.1%	17	10	(7)	-41.2%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to re-prioritization of work plan to address other higher risk maintenance work.
66	2B	Electric Distribution Preventive Maintenance UG	2BP	UG Capital Projects	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 2,522.0	$ 2,015.6	$ (506.4)	-20.1%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
67	2B	Electric Distribution Preventive Maintenance UG	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 3,012.4	$ (701.4)	$ (3,713.8)	-123.3%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
68	2C	Electric Distribution Preventive Maintenance Network	2CA	NP Relay Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 276.2	$ 366.5	$ 90.2	32.7%	25	57	32	128.0%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to preparation of upcoming work on the J Network group. Network Protectors on the J Network group needed to be replaced, resulting in an increased number of units than previous years.
69	2C	Electric Distribution Preventive Maintenance Network	2CB	Fiber/SCADA Communication Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 166.8	$ 25.2	$ (141.7)	-84.9%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
70	2C	Electric Distribution Preventive Maintenance Network	2CC	Network Transformer & Protector Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 5,009.7	$ 6,225.1	$ 1,215.4	24.3%	25	31	6	24.0%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to unexpected emergency replacements in December 2020. PG&E does not anticipate delays in replacing oil-filled transformers in high-rise buildings beyond the 2021 planned completion date.
71	2C	Electric Distribution Preventive Maintenance Network	2CD	Venting Manhole Covers Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 5,425.2	$ 4,065.3	$ (1,359.8)	-25.1%	594	541	(53)	-8.9%	NO	NO	NO	Below variance threshold.	Below variance threshold.
72	2C	Electric Distribution Preventive Maintenance Network	2CE	SCADA Communications Upgrd	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ 8,382.9	$ 12,074.5	$ 3,691.7	44.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
73	2C	Electric Distribution Preventive Maintenance Network	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-6	$ -	$ (190.7)	$ (190.7)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
74	2F	Build IT Applications & Infrastructure	N/A	Not assigned	SRM Total	SRM Total	4-15	$ 17,570.2	$ 42,151.9	$ 24,581.7	139.9%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenditures exceeded imputed regulatory values due in large part to technology support for wildfire mitigation efforts (PSPS, System Hardening) not forecast in 2020 GRC.	Below variance threshold.
75	2F	Build IT Applications & Infrastructure	N/A	Not assigned	RAMP Risk: WF Mitigation	Post 2020 GRC Mitigations	4-15	$ -	$ 22,657.9	$ 22,657.9	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
76	3R	Energy Storage Capital	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	N/A	$ -	$ 205.6	$ 205.6	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
77	46	Electric Distribution Substation Capacity	46A	ED Substation General install/Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 4,794.2	$ 6,359.3	$ 1,565.1	32.6%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
78	46	Electric Distribution Substation Capacity	46F	ED Substatino Emergency and Operational Capacity	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 16,132.2	$ 11,942.4	$ (4,189.9)	-26.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
79	46	Electric Distribution Substation Capacity	46H	ED Substation New Bus Related Capacity	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 11,462.0	$ 17,226.4	$ 5,764.4	50.3%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.

TABLE 3-4
ELECTRIC DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
80	46	Electric Distribution Substation Capacity	46N	ED Substation Land Purchase New Sub	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 456.8	$ 46.0	$ (410.8)	-89.9%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
81	46	Electric Distribution Substation Capacity	46T	ED Substation Support Transmission or Substation Related work	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-13	$ 833.0	$ -	$ (833.0)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
82	48	Electric Distribution Substation Replace Other Equipment	48A	Replace ED Substation Other Equipment	SRM Total	SRM Total	4-12	$ 5,534.6	$ 4,169.8	$ (1,364.8)	-24.7%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
83	48	Electric Distribution Substation Replace Other Equipment	48A	Replace ED Substation Other Equipment	RAMP Risk: WF Mitigation	Post 2020 GRC Mitigations	4-12	$ -	$ 749.4	$ 749.4	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
84	48	Electric Distribution Substation Replace Other Equipment	48B	Replace ED Substation Regulators	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ -	$ (1.3)	$ (1.3)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
85	48	Electric Distribution Substation Replace Other Equipment	48C	Replace ED Substation Batteries	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 2,203.6	$ 282.0	$ (1,921.5)	-87.2%	10	2	(8)	-80.0%	NO	NO	YES	Below variance threshold.	Program actual units were below imputed adopted units due to the changes in the battery replacement strategy from proactive replacement to a Just-In-Time strategy. The majority of the batteries were installed under emergency work and/or included as part of other major planned projects.
86	48	Electric Distribution Substation Replace Other Equipment	48D	Replace ED Substation Breakers	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 7,203.0	$ 3,571.2	$ (3,631.8)	-50.4%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
87	48	Electric Distribution Substation Replace Other Equipment	48E	Replace ED Substation Switches	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 570.0	$ 2,536.0	$ 1,966.0	344.9%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
88	48	Electric Distribution Substation Replace Other Equipment	48F	Replace ED Substation Switchgear	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 20,458.2	$ 45,359.8	$ 24,901.5	121.7%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenditures exceeded imputed values due to an increase in costs to pursue the next phase of switchgear projects at Larkin, El Cerrito, San Francisco M, San Francisco F (Marina Substation), and Oakland D.	Below variance threshold.
89	48	Electric Distribution Substation Replace Other Equipment	48H	Replace ED Substation Civil Structures	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 1,992.1	$ 191.7	$ (1,800.5)	-90.4%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
90	48	Electric Distribution Substation Replace Other Equipment	48L	Dist Line Work Support Substation	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 6,924.9	$ 15,926.1	$ 9,001.2	130.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
91	48	Electric Distribution Substation Replace Other Equipment	48N	ED Substation Insulators	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 2,196.6	$ 622.6	$ (1,574.1)	-71.7%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
92	48	Electric Distribution Substation Replace Other Equipment	48R	ED Substation Reactors	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ -	$ (1.1)	$ (1.1)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
93	48	Electric Distribution Substation Replace Other Equipment	48X	ED Substation Animal Abatement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 2,323.8	$ 4,960.9	$ 2,637.1	113.5%	10	2	(8)	-80.0%	NO	NO	YES	Program expenditures exceeded imputed values due to the re-initiation of deferred animal abatement projects.	Program actual units were below imputed adopted units due to prior year delays of animal abatement projects re-initiated. Additional animal abatement projects were expedited due to 2019 WSIP efforts under MWC 59.
94	49	Electric Distribution Reliability Circuit/Zone	49A	Distribution Line Automation	SRM Total	SRM Total	4-9	$ -	$ 1,406.4	$ 1,406.4	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
95	49	Electric Distribution Reliability Circuit/Zone	49A	Distribution Line Automation	RAMP Risk: WF Mitigation	M15 - Automation and Protection	4-10	$ -	$ 1,405.1	$ 1,405.1	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
96	49	Electric Distribution Reliability Circuit/Zone	49B	Recl Ctrls Install/Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ -	$ 0.2	$ 0.2	100.0%	0	0	0	0.0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
97	49	Electric Distribution Reliability Circuit/Zone	49C	OH Fuses Install/Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ 1,066.2	$ 312.0	$ (754.2)	-70.7%	99	12	(87)	-87.9%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to resources allocated to higher priority work such as System Hardening, WSIP tags, and PSPS.
98	49	Electric Distribution Reliability Circuit/Zone	49D	OH Recl/Sect/Swch Install/Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ -	$ 239.3	$ 239.3	100.0%	0	0	0	0.0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
99	49	Electric Distribution Reliability Circuit/Zone	49E	General Install/Replace Circuit/Zone	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ -	$ (4,691.5)	$ (4,691.5)	-100.0%	0	0	0	0.0%	NO	NO	NO	Below variance threshold.	Below variance threshold.

TABLE 3-4
ELECTRIC DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
100	49	Electric Distribution Reliability Circuit/Zone	49F	UG Fuses Install/Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ -	$ (4.4)	$ (4.4)	-100.0%	0	0	0	0.0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
101	49	Electric Distribution Reliability Circuit/Zone	49G	UG Recl/Sect/Swch Install/Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ -	$ 1,268.6	$ 1,268.6	100.0%	0	0	0	0.0%	NO	NO	NO	Below variance threshold.	Below variance threshold.
102	49	Electric Distribution Reliability Circuit/Zone	49H	PSPS Sect Device Install/Replace	SRM Total	SRM Total	4-9	$ 5,285.0	$ 70,164.0	$ 64,879.0	1227.6%	75	603	528	704.0%	YES	YES	YES	Program expenditures exceeded imputed adopted amounts due to installing additional sectionalizing devices to support the ability to segment distribution circuits near the HFTD boundary to reduce the impact and scope of PSPS events. In addition, working near the HFTD boundary involves increased construction complexities.	Program actual units exceeded imputed adopted amounts due to installing additional sectionalizing devices to support the ability to segment distribution circuits near the HFTD boundary to reduce the impact and scope of PSPS events.
103	49	Electric Distribution Reliability Circuit/Zone	49H	PSPS Sect Device Install/Replace	RAMP Risk: WF Mitigation	M15 - Automation and Protection	4-9	$ 5,285.0	$ 70,164.0	$ 64,879.0	1227.6%	75	603	528	704.0%	N/A	N/A	N/A	N/A	N/A
104	49	Electric Distribution Reliability Circuit/Zone	49I	OH Fault Indicator/Line Sensor Install/Replace	SRM Total	SRM Total	4-9	$ -	$ 2,590.2	$ 2,590.2	100.0%	0	222	222	100.0%	NO	NO	YES	Below variance threshold.	Program actual units exceeded imputed adopted units due to being added as part of CWSP/WMP program.
105	49	Electric Distribution Reliability Circuit/Zone	49I	OH Fault Indicator/Line Sensor Install/Replace	RAMP Risk: WF Mitigation	Post 2020 GRC Mitigations	4-9	$ -	$ 2,590.2	$ 2,590.2	100.0%	0	222	222	100.0%	N/A	N/A	N/A	N/A	N/A
106	49	Electric Distribution Reliability Circuit/Zone	49M	PIH / Microgrids: non-gen	SRM Total	SRM Total	4-9	$ 12,847.5	$ 13,717.9	$ 870.4	6.8%	12	7	(5)	-41.7%	NO	NO	YES	Below variance threshold.	Program actual units were lower than imputed adopted units due to successful pilot phase and successive phases of the program presenting opportunities to build larger sites and enhance grid hardening beyond what was initially envisioned in 2018, which reduced the actual units relative to the imputed adopted.
107	49	Electric Distribution Reliability Circuit/Zone	49M	PIH / Microgrids: non-gen	RAMP Risk: WF Mitigation	M10 - Resiliance Zones	4-9	$ 12,847.5	$ 13,717.9	$ 870.4	6.8%	12	7	(5)	-41.7%	N/A	N/A	N/A	N/A	N/A
108	49	Electric Distribution Reliability Circuit/Zone	49R	Grid Mod Tech	SRM Total	SRM Total	4-9	$ -	$ 4,798.2	$ 4,798.2	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
109	49	Electric Distribution Reliability Circuit/Zone	49R	Grid Mod Tech	RAMP Risk: WF Mitigation	Post 2020 GRC Mitigations	4-9	$ -	$ 4,798.2	$ 4,798.2	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
110	49	Electric Distribution Reliability Circuit/Zone	49S	Elect Reliability Inst FLISR	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ 2,126.2	$ 3,915.2	$ 1,789.0	84.1%	8	16	8	100.0%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to activation of new devices installed on new business, capacity, and PSPS projects.
111	49	Electric Distribution Reliability Circuit/Zone	49T	D-TripSaverII Cutout-MountedLR	SRM Total	SRM Total	4-9	$ 3,225.5	$ 484.9	$ (2,740.5)	-85.0%	208	34	(174)	-83.7%	NO	NO	YES	Below variance threshold.	Actual units were lower than imputed units due to performing less installations than forecast for both Trip Savers and Fuse Savers, in order to focus resources on the EPIC Rapid Earth Fault Current Limiter pilot.
112	49	Electric Distribution Reliability Circuit/Zone	49T	D-TripSaverII Cutout-MountedLR	RAMP Risk: WF Mitigation	M15 - Automation and Protection	4-9	$ 2,157.4	$ -	$ (2,157.4)	-100.0%	105	0	(105)	-100.0%	N/A	N/A	N/A	N/A	N/A
113	49	Electric Distribution Reliability Circuit/Zone	49X	Emerging Dist Rel Improvements	SRM Total	SRM Total	4-9	$ 6,737.4	$ 1,233.3	$ (5,504.1)	-81.7%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
114	49	Electric Distribution Reliability Circuit/Zone	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-9	$ 4,315.8	$ 16,357.7	$ 12,042.0	279.0%	N/A	N/A	N/A	N/A	NO	YES	N/A	Costs exceeded imputed adopted amount due to additional units needed to support the wildfire mitigation efforts (PSPS, System Hardening).	Below variance threshold.
115	54	Electric Distribution Substation Transformer Replacements	54A	ED Substation Replace Transformer	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 5,513.0	$ 31,817.9	$ 26,304.9	477.1%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenditures exceeded imputed values due to a higher volume of transformer replacements than forecast. The 2020 GRC forecast planned for only emergency support, whereas the actual expenditures included the continuation of key planned replacement projects that were further in the project life-cycle.	Below variance threshold.

TABLE 3-4
ELECTRIC DISTRIBUTION 2020 CAPITAL COMPARISON BY MAT CODE FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)
(CONTINUED)

Line No.	MWC	MWC Name	MAT	MAT Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	2020 Imputed Adopted Units (C)	2020 Actual Units (D)	2020 Unit Difference (D-C)	2020 Unit Percent Change (%) (D-C)/C	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation	Unit Variance Explanation
116	56	Electric Distribution Underground (UG) Asset Replacements	56A	UG Cable Other Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-11	$ 32,632.8	$ 17,983.7	$ (14,649.1)	-44.9%	20	8	(12)	-60.0%	NO	YES	YES	Program expenditures were below imputed regulatory values due to work deferral associated with COVID-19, and shifting of resources to support higher priority work such as System Hardening, WSIP tags, pole replacements, and PSPS.	Program units were below imputed regulatory values due to work deferral associated with COVID-19, and shifting of resources to support higher priority work such as System Hardening, WSIP tags, pole replacements, and PSPS.
117	56	Electric Distribution Underground (UG) Asset Replacements	56B	UG Cable Inject	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-11	$ 3,226.3	$ 2,114.4	$ (1,111.9)	-34.5%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
118	56	Electric Distribution Underground (UG) Asset Replacements	56C	UG Cable COE Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-11	$ 32,539.0	$ 21,043.7	$ (11,495.3)	-35.3%	221	110	(111)	-50.2%	NO	YES	YES	Program expenditures were below imputed regulatory values due to work deferral associated with COVID-19, and shifting of resources to support higher priority work such as System Hardening, WSIP tags, pole replacements, and PSPS.	Program units were below imputed regulatory values due to work deferral associated with COVID-19, and shifting of resources to support higher priority work such as System Hardening, WSIP tags, pole replacements, and PSPS.
119	56	Electric Distribution Underground (UG) Asset Replacements	56D	TGRAM/TGRAL Switch Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-11	$ -	$ 5,182.2	$ 5,182.2	100.0%	0	6	6	100.0%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed units due to finding 6 unplanned units in the field needing replacement.
120	56	Electric Distribution Underground (UG) Asset Replacements	56N	Network Cable Replacement	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-11	$ 23,865.9	$ 21,929.0	$ (1,936.9)	-8.1%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
121	56	Electric Distribution Underground (UG) Asset Replacements	56S	Replace Obsolete UG Switches	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-11	$ 6,486.9	$ 5,414.8	$ (1,072.1)	-16.5%	64	51	(13)	-20.3%	NO	NO	YES	Below variance threshold.	Program actual units were below imputed adopted units due to the reallocation of resources to higher priority work such as System Hardening, WSIP tags, and PSPS. PG&E completed additional LBOR switch replacements in MWC 17 and 2B to meet the 2020 GRC settlement agreement compliance requirement.
122	56	Electric Distribution Underground (UG) Asset Replacements	56T	Install Temperature Indicator	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-11	$ -	$ 8,162.5	$ 8,162.5	100.0%	0	2,551	2,551	100.0%	NO	NO	YES	Below variance threshold.	Actual units were higher than imputed adopted units because this is a new program initiated after the 2020 GRC was filed to install temperature sensors to monitor underground equipment.
123	56	Electric Distribution Underground (UG) Asset Replacements	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-11	$ -	$ (1,906.4)	$ (1,906.4)	-100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
124	58	Electric Distribution Substation Safety and Security	58A	ED Substation Safety&Envir&Fire Protect	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 2,225.8	$ 2,588.1	$ 362.4	16.3%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
125	58	Electric Distribution Substation Safety and Security	58B	Replace Dist Sub Civil Structures	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ -	$ 197.6	$ 197.6	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
126	58	Electric Distribution Substation Safety and Security	58C	Replace Dist Sub Misc Equip	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ -	$ 10.6	$ 10.6	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
127	58	Electric Distribution Substation Safety and Security	58S	ED Substation Security Upgrades	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 2,384.1	$ 572.7	$ (1,811.5)	-76.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
128	59	Electric Distribution Substation Emergency Replacement	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-12	$ 62,612.4	119,133.5	$ 56,521.0	90.3%	N/A	N/A	N/A	N/A	YES	YES	N/A	Program expenditures exceeded imputed values due to an increase in major equipment (transformer and breaker) replacements, and emergency work driven by 2019 WSIP inspection projects.	Below variance threshold.
129	63	Electric Operations Control Center Facility and Operations Technology	63C	Dist Ctrl Sys/Fac Install/Replace	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-19	$ 36,915.1	$ 44,169.7	$ 7,254.6	19.7%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
130	63	Electric Operations Control Center Facility and Operations Technology	63D	Distribution Operational Tech	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-19	$ -	$ 1,108.1	$ 1,108.1	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
131	63	Electric Operations Control Center Facility and Operations Technology	#	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-19	$ -	$ 212.9	$ 212.9	100.0%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.
132	74	Install New Gas Meters	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	6-6	$ -	$ 18,218.1	$ 18,218.1	100.0%	N/A	N/A	N/A	N/A	NO	YES	N/A	Program expenses exceeded imputed regulatory values due to transfer of this program from Customer Care to Electric Distribution in 2018.	Below variance threshold.
133	95	Electric Distribution Major Emergency	N/A	Not assigned	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	4-4	$ 55,086.2	$ 64,256.8	$ 9,170.6	16.6%	N/A	N/A	N/A	N/A	NO	NO	N/A	Below variance threshold.	Below variance threshold.

D. MWC Descriptions – Expense

MWC AB – Support and Emergency Preparedness and Response—Includes general support of the electric distribution system, including performance improvement initiatives, interdepartmental meter costs, consulting fees, and several smaller projects such as the Electric Magnetic Fields (EMF) Program. In addition, MWC AB captures standard cost variance of multiple electric distribution workgroups in Electric Operations (EO) and a forecast offset for productivity improvements. This MWC also includes costs for PG&E's Emergency Preparedness and Response (EP&R) organization, including the Public Safety Power Shutoffs (PSPS) Project Management Office (PMO). This program relates to safety, reliability, or maintenance because the initiatives are for emergency preparedness for all employees. Employees are trained to respond to the Emergency Operations Center (EOC) activations during emergencies, and specifically how to perform their function within the Incident Command Structure organization. These activities are for the purpose of responding to emergencies in a safe manner and timely restoring customer service to minimize reliability impacts. In addition, this MWC includes Public Awareness Outreach, the Advanced Technology Services organization responsible for equipment testing and calibration and coordinating the EMF Program, and the Regulatory Compliance & Quality Assurance organization.

MWC AR – Read & Investigate Meters—Includes activities for field resources performing manual meter reading activities, and the systems, administration, and clerical support necessary to effectively perform these activities. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure necessary to reliably deliver timely and accurate customer billing.

MWC BA – Electric Distribution Operation Activities—Includes electric distribution control center (DCC) and field operations, including work performed by Distribution operators and engineers. This work includes operating switches to transfer load between circuits, isolating customer services or deenergizing sections of line during planned construction or maintenance, and reconfiguring circuits to mitigate unplanned situations such as dig-ins, car pole accidents, and storms. This program relates to safety, reliability, or maintenance because the costs are incurred for timely response and restoration during emergencies and

power outages and to develop and execute switching to reduce customer impacts from planned work.

MWC BF – EO Patrols/Inspections—Includes patrols and inspections of overhead (OH) and underground (UG) electric distribution facilities per General Order (GO) 165; patrols and inspections of OH facilities in wildfire areas; infrared inspections; testing and inspections of OH and UG line equipment; special patrols and inspections; and other work associated with electric distribution system maintenance. This program relates to safety, reliability, or maintenance because it proactively identifies assets needing repair or replacement and generates corrective work orders for future work planning.

MWC BH – Electric Distribution Routine Emergency—Includes repair or replacement of Electric Distribution OH or UG infrastructure that are an imminent hazard or have caused an outage during normal Level 1 conditions. This includes routine emergency response work, as well as work issued using PG&E's Field Automation System (FAS) for either emergency response or system reliability. This program relates to safety, reliability, or maintenance because it concerns timely restoring power following outages, investigating voltage or power quality complaints, and putting an imminent hazard in a safe condition.

MWC BK – Maintenance of Other Equipment—Includes repair of specialized equipment, such as transformers, voltage regulators, circuit reclosers, capacitor banks and line switches, as well as equipment repair activities at the Emeryville repair facility. This program relates to safety and reliability because it involves overhauling, repairing, and testing distribution line equipment. Units which cannot be safely restored are taken out of service and disposed of properly.

MWC DD – Customer Field Service Work—Includes Electric Distribution's portion of customer-generated field service activities, specifically start/stop service requests and other customer-generated electric field service requests. Beginning in 2018, this work includes activities for electric turn-ons and shut-offs initiated by customers, which are mainly performed by electric meter technicians and meter maintenance person resources at commercial and agricultural customer premises. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure.

MWC DN – Develop and Provide Training—Includes revising existing and creating new training materials and course curriculums for PG&E's workforce. This work has moved to the Human Resources organization. This program relates to safety, reliability, or maintenance because effective training equips PG&E employees with the skills and experience to provide safe and reliable service.

MWC EV – New Customer Connection Service Inquiry Activities—Includes processing customer requests related to new business or increased connection capacity (added load) on existing services. PG&E is required by its approved electric tariff and franchise agreements to perform this work. This program does not relate to safety, reliability, or maintenance because it is customer-driven work.

MWC EW – EO Work Requested by Others (WRO)—Encompasses work required by tariff, third-party requests and franchise compliance, including:

- Relocations: Non-plant related relocations of electric facilities; Land Department right-of-way record research requested by third parties that are not project specific; and local division office WRO service inquiries not requiring Land Department involvement. (WRO related to gas service has moved to MWC LK in Gas Operations.);
- Generation Interconnection Services: Managing the electric interconnection process for the California Public Utilities Commission and Federal Energy Regulatory Commission jurisdictional customer generation projects connected at the electric distribution service level from receipt of the interconnection inquiry through the in-service date of the new generation facility and continuing through billing, settlements and refunds.
- Pre-Parallel Inspections: On-site inspections of electric distribution voltage interconnections that are funded via Electric Tariff Rule 21. Pre-parallel inspections are performed for safe and reliable operation of customer-owned generators paralleled with PG&E's grid; and

This program does not relate to safety, reliability, or maintenance because it is customer, or other third-party driven work.

MWC EY – Change/Maintenance Used Electric Meter—Includes the costs of meter activities associated with electric meter preventive maintenance, electric meter Corrective Maintenance (CM), meter programming, meter network

maintenance, electric meter accuracy testing, and the associated staff support necessary to effectively perform these activities. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure necessary to reliably deliver timely and accurate customer billing.

MWC FZ – Electric Distribution Engineering and Planning—Supports many programs that require engineering and planning services, including the Electric Distribution Capacity, Electric Distribution Reliability, and Underground Asset Management programs. This program also supports: performing diagnostics on data from automated field equipment to support the DCC; investigating secondary voltage complaints that Troublemen cannot resolve on the first visit; and operational field work that electric planning personnel initiate, such as phase balancing and replacing fuses that are projected to be overloaded. This program relates to safety, reliability, or maintenance because it includes the electrical engineering and planning services work necessary for a variety of asset management activities.

MWC GA – Poles – Intrusive Inspection/Test and Treat Program—Includes activities to assess the condition of the lower section of wood poles and preserve the poles' wood strength through the application of chemicals and restoration of poles as warranted. This program also includes coordinating the billing of joint owners and tenants for their share of costs for work performed on jointly owned or leased facilities. In addition, this program includes analyzing poles for overload conditions and ensuring poles meet the strength and loading requirements of GO 95. This program relates to safety, reliability, or maintenance because the costs are incurred to determine whether poles are in good condition so as to prevent premature failure.

MWC GC – Electric Distribution Substations Operate and Maintain Assets—Includes preventive and CM and operations of electric distribution substation assets.

- Preventive maintenance includes: Substation facility and Equipment Inspections; diagnostic testing; overhauls; washing insulators; maintenance of mobile and Capitalized Emergency Material equipment; maintaining station logs;

- CM includes: Restoration and repair of failed equipment; switching and restoring service to customers; mobile substation and mobile transformer installation costs; and relocation of emergency and surplus equipment; and
- Operations in a substation include: Activities associated with providing safe working conditions for employees; calibrating and adjusting substation equipment; building maintenance, miscellaneous activities such as yard repairs, janitorial work and landscaping, vegetation management (VM), rental contracts, and system-funded expense projects, such as transformer relocations.

This program relates to safety, reliability, or maintenance because it targets the operation, preventive and CM of substation equipment and identifies any abnormalities in the equipment's intended function.

MWC GE – Electric Distribution Mapping—Includes providing timely and accurate data and spatial information for PG&E's electric system that supports construction, engineering, estimating, operational, restoration, inspection, and maintenance activities. This program includes data management activities covering the full lifecycle of data: ingestion, storage, access, controls, governance, quality, meta-data, usage, security, retention and disposal of data. This program relates to safety, reliability, or maintenance because it enables the accurate collection and effective management of records related to field assets. It also enables access and use of the data to inform risk management decisions. These records are crucial to determine that field assets are safely and reliably operated and necessary maintenance is performed in a timely fashion.

MWC HG – Electric Distribution Operations Technology—Covers technical support for Electric Distribution Operations including, but not limited to, operational and development support for various control center applications and tools and Integrated Grid Platform (IGP) applications, including the implementation of an Advanced Distribution Management System (ADMS). This program relates to reliability because it enables advanced outage management applications including instantaneous fault location and automated switching recommendations and relates to safety because it enhances cybersecurity and promotes operator awareness of real-time (RT) circuit conditions.

MWC HN – Vegetation Management Balancing Account (VMBA)—Includes costs necessary to support and execute patrolling, inspecting and

maintaining clearances of vegetation along PG&E's OH high-voltage electric distribution lines. The program covers routine tree trimming and removal, vegetation control, contractor quality control, environmental compliance and public education, and fire risk reduction work. This program relates to safety and reliability by managing the vegetation adjacent to power lines to reduce the risk of vegetation contact with the electric distribution equipment.

MWC HX – EO Automation/Supervisory Control and Data Acquisition (SCADA), Protection Support—Includes engineering and technical support for automation and protection equipment. Also includes the service and software costs associated with electric distribution SCADA software. Engineering support consists of three components: (1) Automation Engineering support; (2) Protection Engineering support; and (3) SCADA Specialist support. This program relates to safety, reliability, or maintenance because it includes engineering support for the maintenance and operation of automation and protection equipment.

MWC HY – Perform Gas Meter Maintenance—Includes the costs of meter activities associated with gas meter/AMI SmartMeter™ module maintenance that does not result in meter/module exchanges, meter/module communication trouble-shooting, programming, and repairs. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure necessary to reliably deliver timely and accurate customer billing.

MWC IF – Electric Distribution Major Emergency—Includes response work to significant OH or UG outages and/or imminent hazard to PG&E's electric distribution facilities that requires a division Operations Emergency Center (OEC) activation and is consistent with PG&E's Major Emergency Balancing Account (MEBA) Criteria Guidance Document. Beginning in 2014, these costs are included in the two-way MEBA authorized by D.14-08-032. This program relates to safety, reliability, or maintenance because the costs incurred are for timely restoring power following an outage.

MWC IG – Various Balancing and Memorandum Accounts—Includes expense costs for various balancing and memorandum accounts:

- Wildfire Mitigation Balancing Account (WMBA) – Includes expense costs associated with wildfire mitigations described in PG&E's 2020 General Rate

Case (GRC), including PSPS event activities and costs, PSPS non-event preparation and programs, the Wildfire Safety Operations Center, and enhanced situational awareness mitigations;

- Fire Risk Mitigation Memorandum Account – Includes costs incurred for wildfire risk mitigation which were not included in PG&E's 2020 Wildfire Mitigation Plan (WMP)and not associated with wildfire mitigations described in PG&E's 2020 GRC that are recorded in the WMBA. PG&E will determine the incrementality of these amounts to the Company's revenue requirement when it applies for cost recovery;
- Wildfire Mitigation Plan Memorandum Account – Includes costs incurred to implement PG&E's approved WMP that are not associated with wildfire mitigations described in PG&E's 2020 GRC that are recorded in the WMBA. PG&E will determine the incrementality of these amounts to the Company's revenue requirement when it applies for cost recovery;
- VMBA – Includes enhanced vegetation management (EVM), which is a wildfire risk mitigation. In addition, records costs for Tree Mortality and Fire Risk Reduction work, previously recorded in Catastrophic Events Memorandum Account, in the new two-way VMBA; and
- Rule 20A Balancing Account Expense – Includes costs associated with the Rule 20A Audit ordered by D.18-03-022, and expense amounts for cancelled projects.

This program relates to safety, reliability, or maintenance because the memorandum and balancing accounts, excluding Rule 20A, track work to address wildfire risk.

MWC IS – **Streetlight Support**—Includes work in support of streetlight inventory and LS-2 Streetlight Audit Services, and the Light Emitting Diode (LED) and other streetlight programs. This program relates to safety, reliability, or maintenance for the successful inventory of streetlights necessary for ongoing maintenance and safe operations.

MWC IU – **Collect Revenue**—Meter activities that are focused on the detection, investigation, and resolution of customer energy theft. This includes the costs of field employees, systems and staff support necessary to effectively perform these activities. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering

infrastructure and seeks to identify and address potential safety issues created by unauthorized usage or connections by customers.

MWC JV – **Maintain IT Applications and Infrastructure**—Includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems and infrastructure. This program relates to safety, reliability, or maintenance by maintaining the IT solutions that provide PG&E's field and office employees with the tools needed for them to perform their job in a safe and efficient manner. These tools are intended to provide up-to-date, complete, and accurate information to enable coordination of work and asset data across all work streams to enhance grid safety and operational efficiency. The areas covered by this MWC include asset design, asset management, and work management.

MWC KA – **Preventive Maintenance and Equipment Repair, OH**—Includes repair of OH facilities; repair of OH Critical Operating Equipment (COE); repair of streetlights and group streetlight replacements; repair of OH facilities to address migratory bird requirements; investigation and response to Radio and Television Interference (RTVI) inquiries; washing insulators; investigation of idle facilities; wood pole bridge bonding; and other OH maintenance work. This program relates to safety, reliability, or maintenance because it addresses non-conforming equipment identified by preventative maintenance programs such as inspections and patrols, as well as internal operational processes (e.g., equipment testing).

MWC KB – **Preventive Maintenance and Equipment Repair, UG**—Includes repair of UG facilities; repair of UG COE; grounding WYE (three-phase star configuration) transformers; and other UG line maintenance work. This program relates to safety, reliability, or maintenance because it addresses non-conforming equipment identified by preventative maintenance programs such as inspections and patrols, as well as internal operational processes (e.g., equipment testing).

MWC KC – **Preventive Maintenance and Equipment Repair, Network**—Includes repair of network facilities; repair of network equipment, repair of network SCADA equipment, testing and overhaul of Network Protectors (NP), transformer oil sampling; and other miscellaneous network maintenance work. This program relates to safety, reliability, or maintenance because it addresses

the maintenance and repair of the equipment necessary and fundamental to maintaining a safe and reliable distribution network system.

MWC OM – Operational Management (OM)—Includes labor-and employee-related costs to provide supervision and management support. MWC OM also includes costs incurred by the administrative staff working for the Supervisors/Managers. This program is not directly related to safety, reliability, or maintenance because this MWC represents PG&E OM staff necessary to direct field execution of work on PG&E assets.

MWC OS – Operational Support (OS)—Includes labor- and employee-related costs that provide services and support that are unrelated to supervision and management. This program is not directly related to safety, reliability, or maintenance because this MWC represents PG&E OS staff necessary to plan and coordinate field execution of work on PG&E assets, develop asset family strategies and standards, and drive necessary process coordination and improvement efforts.

E. MWC Descriptions – Capital

MWC 05 – Tools & Equipment—Includes the costs of miscellaneous tools and equipment, Advanced Technology Services tools, and of overdrawn materials. ATS tools include the cost of laboratory and test equipment used for field work or in ATS laboratories. In the 2017 GRC, this MWC also included PG&E's forecast for an offset for capital- related productivity improvements. Beginning in 2018, this category includes tools and equipment necessary to perform all field metering, meter maintenance, meter repair, and accuracy testing activities. This program relates to safety, reliability, or maintenance because it includes funds for the purchase of necessary tools to be used in the safe execution of work by field personnel.

MWC 06 – Electric Distribution Line and Equipment Capacity—Includes capacity expansion work outside a substation necessary to correct specific capacity deficiencies or overload conditions on electric distribution lines and equipment. This work includes replacing/upgrading conductors and devices along with installing capacitors, switches or other equipment; establishing new circuit outlets; converting circuit line sections to a higher operating voltage; and reconfiguring primary electric distribution circuits to redistribute loading. This program relates to safety, reliability, or maintenance because it corrects

overloads on distribution equipment, mitigating the risk of equipment failure due to overloads.

MWC 07 – **Electric Distribution Install/Replace OH Poles**—Includes the replacement of poles to support safety and reliability of the electric distribution system. This program relates to safety, reliability, or maintenance because it actively works to determine whether poles are in good condition so as to prevent premature failure. This program enhances overall system safety by replacing poles identified as overloaded or nearing the end of in-service life, prior to premature failure.

MWC 08 – **Electric Distribution OH Asset Replacement**—Includes rebuilding and reframing OH electric distribution lines (including the installation of covered wire and non-wood electric distribution poles); and performing other reliability and system hardening improvement work such as replacing annealed OH conductors and obsolete switches. This program relates to safety, reliability, or maintenance because it directly funds projects designed to replace OH equipment and rebuild electric distribution lines in the High Fire-Threat Districts (HFTD) as part of PG&E's Community Wildfire Safety Program (CWSP).

MWC 09 – **Electric Distribution Automation (DA) and Protection**—Covers investments in field automation and protection devices including installing or replacing substation Remote Terminal Units (RTU); installing or replacing SCADA peripherals ; replacing obsolete protection equipment, primarily relays, in electric distribution substations; replacing automation or protection equipment due to unanticipated failure; and continuing the Fire Risk Management initiative that allows remote operation of reclose relays on certain circuit breakers and line reclosers to reduce the likelihood of wildland and urban fires. This program relates to safety, reliability, or maintenance because it directly funds projects which support the automation of substation equipment and electric distribution protective devices.

MWC 10 – **Electric Distribution WRO General**—Includes relocating electric distribution facilities at the request of a governmental agency or other third parties (e.g., customers and developers) and conversion of OH electric facilities to UG under Tariff Rule 20B and Rule 20C. This work is mandated by PG&E's electric tariff and franchise agreements. This program does not relate to safety, reliability, or maintenance because it is third-party driven work.

MWC 16 – **Electric Distribution Customer Connections**—Includes building new UG and OH primary electric distribution systems, and the associated secondary systems and services to both residential and nonresidential customers. PG&E is required by its approved electric tariff and franchise agreements to perform this work. Additionally, included within this MWC are all purchases for distribution transformers for use in all types of capital work. This program does not relate to safety, reliability, or maintenance because it is customer-driven work.

MWC 17 – **Electric Distribution Routine Emergency**—Includes activities related to the replacement of capital-related Electric Distribution infrastructure, in response to (1) a customer outage or an unsafe condition requiring immediate response and standby, and (2) troubleman assessment activities and switching of the system's configuration in response to OH and UG outages occurring during normal Level 1 conditions. This program relates to safety, reliability or maintenance because it concerns timely restoring power following an outage and putting an imminent hazard in a safe condition.

MWC 21 – **Miscellaneous Capital and EP&R**—Includes costs to build critical infrastructure required for response to catastrophic emergencies and fire related situational awareness tools and resources. This includes costs for EOCs, basecamps, facility upgrades, communications and data infrastructure improvements, and natural disaster models. Beginning in 2016, this MWC may include an offset for capital related productivity improvements and work execution risk. This program relates to safety, reliability, or maintenance because work in this program is critical to effective emergency response and supporting the CWSP Management Office. MWC 21 also includes miscellaneous capital expenses such as Applied Technology Services (ATS) lab safety and reliability upgrades.

MWC 25 – **Install New Electric Meters**—Includes labor necessary to perform electric meter installations, exchanges, removals, and retirements. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure necessary to reliably deliver timely and accurate customer billing.

MWC 2A – **Electric Distribution Preventive Maintenance, OH**—Includes replacing deteriorated OH facilities on a planned basis where it is not

cost-effective to repair those facilities. This work is like the work performed in MWC KA, but includes replacing equipment, rather than repair and maintenance. Typical equipment replacements include corroded transformers, deteriorated cross-arms, inoperative line switches, and other OH electric distribution facilities. This equipment is replaced in kind in most cases; however, upgrades may be required where necessary to meet current operating conditions, technology, and safety standards. Work also includes replacing PG&E-owned, non-decorative High-Pressure-Sodium Vapor streetlights with LED streetlights and non-exempt surge arrester replacements. This program relates to safety, reliability, or maintenance because it addresses non-conforming equipment identified by preventative maintenance programs such as inspections and patrols, as well as internal operational processes (e.g., equipment testing). In addition, the streetlight replacements address certain assets (i.e., San Francisco Regulated Output Streetlights) that will improve illumination, increasing safety.

MWC 2B – Electric Distribution Preventative Maintenance (EDPM), UG—Includes replacing deteriorated UG facilities on a planned basis where it is not cost-effective to repair those facilities. This work is like the work performed in MWC KB, but includes replacing equipment, rather than repair and maintenance. Typical equipment replacements include corroded transformers, inoperative switches, damaged UG enclosures and other UG electric distribution facilities. Equipment is replaced in kind in most cases; however, upgrades are required where necessary to meet current operating conditions, technology, and safety standards. This program relates to safety, reliability, or maintenance because it addresses non-conforming equipment identified by preventative maintenance programs such as inspections and patrols, as well as internal operational processes (e.g., equipment testing).

MWC 2C – EDPM, Network—Includes replacing deteriorated network facilities on a planned basis where it is not cost-effective to repair those facilities. This work is similar to the work performed in MWC KC, but includes replacing equipment, rather than repair and maintenance. Typical equipment replacements include corroded transformers, inoperative switches, and other network distribution facilities. Equipment is replaced in kind in most cases; however, upgrades are required where the equipment must meet current

operating conditions, technology, and safety standards. Additional work includes safety improvement programs such as High-Rise Building Transformer Replacements, new monitoring system installation and the Manhole Cover Replacement Program. This program relates to safety, reliability, or maintenance because it addresses the replacement of faulty network equipment identified by the preventative maintenance program in addition to the planned new equipment upgrade, which is fundamental to maintaining a safe and reliable distribution network system.

MWC 2F – **Build IT Applications and Infrastructure**—Includes the costs to design, develop and enhance applications, systems and infrastructure technology solutions. This program relates to safety, reliability, or maintenance by developing and deploying IT solutions that provide PG&E's field and office employees with the tools needed for them to perform their job in a safe and efficient manner. These tools are intended to provide up-to-date, complete, and accurate information to enable coordination of work and asset data across all work streams to enhance grid safety and operational efficiency. The areas covered by this MWC include asset design, asset management and work management.

MWC 30 – **Electric Distribution WRO – Rule 20A**—Conversion of existing OH electric distribution facilities to UG facilities. To qualify under the Rule 20A Tariff, a project must meet certain criteria, including being in the general public interest and having sufficient work credits to convert the facilities. Beginning in 2017, these costs are included in the one-way Rule 20A balancing account authorized by D.17-05-013. This program does not relate to safety, reliability, or maintenance because it is customer-driven work.

MWC 46 – **Electric Distribution Substation Capacity**—Includes capacity work within substations including new substations, increased capacity at existing substations, and work on feeders/breakers within a substation. This program relates to safety, reliability, or maintenance because it corrects overloads on substation equipment, mitigating the risk of equipment failure due to overloads.

MWC 48 – **Electric Distribution Substation Replace Other Equipment**—Includes all major and minor substation equipment replacements not included in MWC 54 (Transformer Program). Specific sub-programs include: (1) Ancillary Substation Equipment Replacement; (2) Ground Grid Replacement; (3) Circuit

Breaker Replacement; (4) Switch Replacement; (5) Battery Replacement; (6) Civil Structure Replacement; (7) Switchgear Replacement; (8) Yard Improvements; (9) Animal Abatement; and (10) Transformer Bushings. This program relates to safety and reliability because it targets proactive replacement of substation equipment that is crucial to maintaining substation reliability.

MWC 49 – **Electric Distribution Circuit/Zone Reliability Program**—Includes various circuit reliability improvement work to address repeat outages and customer service-level complaints. This program also includes the purchase of line reclosers (revolving stock), the installation of Fault Location, Isolation, and Service Restoration (FLISR) systems, and the targeted circuit initiative which addresses the least reliable circuits and typically involves a mixture of installing new fuses, reclosers, fault indicators and animal and bird guards, reframing poles to increase phase separation, and repairing or replacing existing equipment. This program relates to safety, reliability, or maintenance because it directly supports the implementation of targeted capital projects designed to improve electric service reliability and address customer outage complaints.

MWC 54 – **Electric Distribution Substation Transformer Replacements**—Includes maintaining or improving substation reliability by replacing transformers that have the highest risk of failure. This MWC also includes maintaining an adequate supply of emergency transformer stock and mobile transformers for emergency response. This program relates to reliability because it is the proactive planned replacement of substation transformers in order to improve substation reliability and prevent transformer failures.

MWC 56 – **Electric Distribution UG Asset Replacements**—Includes reliability related replacement of primary electric distribution cables (includes tie-cables), primary and secondary Network Cables, non-emergency related failed primary electric distribution cables, Transfer Ground Rocker Arm Main/Transfer Ground Rocker Arm Line (TGRAM/TGRAL) switches, Load Break Oil Rotary (LBOR) switches, and replacement of failed primary electric distribution cables. Program also includes performing cable rejuvenation (injection) and testing. This program relates to safety, reliability, or maintenance because it addresses assets that have deteriorated and/or are experiencing failures, some of which may pose safety risk to employees and public if they fail.

MWC 58 – **Electric Distribution Substation Safety and Security**—Includes substation security, seismic, and fire protection and suppression work. Also encompasses miscellaneous, unforeseen, short lead-time and emergency environmental work (e.g., removal of an old asbestos panel in a control room that requires special handling). This program relates to safety and reliability because it targets work that prevents potential hazards within the substation.

MWC 59 – **Electric Distribution Substation Emergency Replacements**—Includes replacements for substation equipment that fails or is forced out of service, as well as an emergency supply of transformers and other equipment to replace failed equipment. This program relates to reliability because it targets the replacement of substation assets that have failed or are expected to fail imminently.

MWC 63 – **EO Control Center Facility and Operations Technology**—Covers ongoing capital improvements and enhancements to the consolidated control centers, the Fresno Dispatch Facility, and technology and systems for these facilities, including IGP applications such as the ADMS. This includes operational technology costs to design, develop and enhance applications, system and infrastructure technology solutions. This program relates to reliability because it enables advanced outage management applications including instantaneous fault location and automated switching recommendations and relates to safety because it enhances cybersecurity and promotes operator awareness of RT circuit conditions.

MWC 74 – **Install New Gas Meters**—Includes labor necessary to perform AMI SmartMeter module installations, exchanges, removals and retirements. This program relates to safety, reliability, or maintenance because accurate customer usage data must be recorded and delivered to the PG&E billing systems on a reliable and timely basis.

MWC 95 – **Electric Distribution Major Emergency**—Includes response to significant OH or UG outages and/or imminent hazard to PG&E's electric distribution facilities that requires division OEC activation and is consistent with PG&E's MEBA Criteria Guidance Document. Beginning in 2014, these costs are included in the two-way MEBA authorized by D.14-08-032. This program relates to safety, reliability, or maintenance because the costs incurred are for timely response and restoration following power outages.

F. New MWC Descriptions – Capital

MWC 3R – **Energy Storage Capital**—Includes the capital costs to install new or replace existing energy storage equipment or components to support energy storage activities. This MWC relates to safety, reliability, or maintenance because the costs are associated with installing/replacing energy storage equipment that is consistent with keeping the energy storage facilities reliable.

G. MAT Code Descriptions – Expense

MAT AB6 – **EP&R**—Emergency Preparedness and Response (EP&R) expense cost, including the PSPS PMO organization. This program relates to safety, reliability, or maintenance because this work drives the company emergency response plan for customer safety, and timely outage restoration.

MAT BAF – **General Operations**—Distribution Operators manage and control the electric distribution system. Activities include monitoring the distribution system; performing system configuration changes, such as switching and circuit reconfiguration; and processing switching applications for work that enables construction to maintain and improve electric distribution system infrastructure. This program relates to safety, reliability, or maintenance because the costs are incurred for timely response and restoration during emergencies and power outages.

MAT BAH – **FLISR Maintenance**—Includes testing, installation and maintenance of the FLISR control systems and services associated with the DCC operations and DA. This program relates to safety, reliability, or maintenance because the costs are incurred for timely response and restoration during emergencies and power outages.

MAT BF3 – **UG Bay Area Rapid Transit (BART) Cable Testing/Inspections**—Annual UG inspections/testing of 34.5 kilovolts (kV) BART Cable for compliance with Utility Standard TD-2302S. This program relates to safety, reliability, or maintenance because the costs are incurred to proactively identify UG BART cable assets needing repair or replacement and generates corrective work orders for future work planning.

MAT BF4 – **UG Auto Transfer Switch Testing/Inspections**—Annual UG inspections/testing of individual electronic-component style and microprocessor style Auto-Transfer Switches (ATS) for compliance with Utility Standard TD-2302S. This program relates to safety, reliability, or maintenance

because it proactively identifies UG ATS assets needing repair or replacement and generates corrective work orders for future work planning.

MAT BFA – **OH Poles Patrolled**—Visual patrol of OH electric distribution facilities to identify obvious structural problems or hazards for compliance with GO 165 and the EDPM Manual. Patrolled facilities include primary, secondary, and service, and other associated electric distribution facilities from the substation, including poles within the substation fence, to the end of the line. Towers supporting only electric distribution facilities are included in the OH patrol. Patrols can be performed from a vehicle, on foot, or by helicopter. Units measured: Number of poles patrolled. This program relates to safety, reliability, or maintenance because it proactively identifies OH assets needing immediate repair or replacement.

MAT BFB – **OH Poles Inspected**—Detailed inspection of OH electric distribution facilities to examine and record abnormal conditions that will adversely impact safety or reliability for compliance with GO 165 and the EDPM Manual. Inspected facilities include PG&E solely-and jointly-owned distribution poles, including all equipment and facilities on the pole; primary and secondary risers and services; primary and secondary conductor; transmission poles with electric distribution under build; electric distribution towers and lattices; streetlights on PG&E solely owned or joint pole distribution poles; and primary metering. Units measured: Number of poles inspected. This program relates to safety, reliability, or maintenance because it proactively identifies OH assets needing repair or replacement and generates corrective work orders for future work planning.

MAT BFC – **OH Infrared Inspections**—Infrared inspection of OH electric distribution facilities to identify pending failure of equipment. Work includes contractor-performed reliability work and internal-performed ad hoc requests. This program relates to safety, reliability, or maintenance because it proactively identifies OH assets needing repair or replacement and generates corrective work orders for future work planning.

MAT BFD – **UG Enclosures Patrolled**—Visual patrol of UG electric distribution facilities to identify obvious structural problems or hazards for compliance with GO 165 and the EDPM Manual. Patrolled facilities include pad-mounted equipment, primary enclosures, and visible secondary enclosures

outside the substation fence to the end of the line. An UG patrol may be performed by walking or driving. Units measured: Number of enclosures patrolled. This program relates to safety, reliability, or maintenance because it proactively identifies UG assets needing repair or replacement.

MAT BFE – **UG Infrared Inspections**—Detailed inspection of UG electric distribution facilities to examine and record abnormal conditions that will adversely impact safety or reliability for compliance with GO 165 and the EDPM Manual. Inspected facilities include pad-mounted facilities; all UG equipment, conductors, splices, and elbows within primary enclosures; primary metering that includes all visible, primary cable up to termination point plus the primary metering facilities. An infrared inspection must be performed in conjunction with UG inspections. Units measured: Number of enclosures inspected. This program relates to safety, reliability, or maintenance because it proactively identifies UG assets needing repair or replacement and generates corrective work orders for future work planning.

MAT BFF – **UG Line Equipment Inspected and Tested**—Annual inspections of UG electric distribution line equipment for compliance with Utility Standard TD-2302S. Facility inspections only include manholes with special equipment (i.e., oil-filled equipment). 34.5 kV BART Cable Inspections and ATS Inspections are performed and tracked in MATs BF3 and BF4, respectively. Units measured: Number of UG line equipment inspected and tested. This program relates to safety, reliability, or maintenance because it proactively identifies assets needing repair or replacement and generates corrective work orders for future work planning.

MAT BFG – **OH Line Equipment Inspected and Tested**—Annual inspections/testing of OH, pad-mounted, and UG electric distribution line equipment for compliance with Utility Standard TD-2302S. Facilities include capacitors, regulators, reclosers, and SCADA operated switches, interrupters, and sectionalizers. Units measured: Number of OH line equipment inspected and tested. This program relates to safety, reliability, or maintenance because it proactively identifies assets needing repair or replacement and generates corrective work orders for future work planning.

MAT BFH – **Inspection Projects**—Support of annual GO 165 audits, QA Electric Distribution Audits and ad hoc requests throughout the year. This

MAT also includes miscellaneous special projects as requested by Asset Strategy. Projects include inspections or patrols of equipment determined to present safety related conditions. Some projects are multi-year while others are single year. Other projects are related to re-inspections or re-patrols as needed as a result of work verifications and is required by GO 165. Other funding in this MAT is related to UG inspection sticker costs required as part of the UG inspections. This program relates to safety, reliability, or maintenance because it proactively identifies assets needing repair or replacement and generates corrective work orders for future work planning.

MAT BFJ – OH Patrol Outage Review Team (ORT) Post Outage—For requested post-outage patrols as an action from an ORT meeting. Work scope (including the area to be patrolled and the volume of poles and enclosures) must be identified during the ORT meeting. This includes UG Infrared requests. This program relates to safety, reliability, or maintenance because it identifies assets needing repair or replacement and generates corrective work orders for future work planning.

MAT BFL – Santa Barbara Wildfire Poles Patrolled—Annual patrols of OH electric distribution facilities in Santa Barbara County wildfire-risk areas. Work is performed in two divisions (Los Padres and Kern) in PG&E territory in Santa Barbara County. Units measured: Number of poles patrolled. This program relates to safety, reliability, or maintenance because the costs are incurred to patrol specific areas within Santa Barbara County wildfire-risk areas, now managed as part of MAT BFA.

MAT BKA – Line Equipment Overhauls (Emeryville)—For Emeryville's use only of scheduled transformer repair. Units measured: Number of equipment overhauls. This program relates to safety, reliability, or maintenance because it involves the overhaul, repair, and testing of all distribution line equipment at the Emeryville Repair facility.

MAT BKJ – Line Equipment Overhauls (Division Up/Down Labor) (Emeryville)—For Emeryville's use only of scheduled equipment overhauls of electrical distribution equipment: regulators, auto boosters, and reclosers. Units measured: Number of equipment overhauls. This program relates to safety, reliability, or maintenance because it involves the overhaul, repair, and testing of all distribution line equipment at the Emeryville Repair facility.

MAT BKK – **Equipment Warranty Repair (Emeryville)**—For Emeryville's use only of scheduled equipment warranty repairs. This program relates to safety, reliability, or maintenance because the equipment is repaired or replaced under the manufacturer's warranty period, at the Emeryville Repair facility.

MAT DD# – **Customer Field Service Work**—Covers Electric Distribution's portion of customer-generated field service activities, specifically start/stop service requests, emergency response and other customer-generated electric field service requests. The primary work includes addressing partial and complete outages related to customer equipment; transfers of service; electric service upgrades; and temporary disconnections or reconnections of service. This work was previously included in MWC BA. This program relates to safety, reliability, or maintenance as the costs are incurred for timely response, repair, and service per customer requests.

MAT DDC – **Electric Start/Stop**—Includes activities for electric service turn-ons and shut-offs initiated by customers, which are mainly performed by Field Metering resources at commercial, industrial and agricultural customer premises. This program relates to safety, reliability, or maintenance because electric service is either established or terminated based on customer request.

MAT DDH – **Electric Trouble Customer Equipment**—Part outs or complete outs related to customer equipment. Part outs occur when a customer is only receiving energy to a portion of their home or business (e.g., burnt out fuses, customer wiring, service connection at the weather-head, etc.). Units measured: Number of outages. This program relates to safety, reliability, or maintenance because the costs are incurred for timely response, repair, and service per customer requests.

MAT DDJ – **Swing Service, Disconnects/Reconnects**—(1) Swing service: transfer of service from old location to new, using existing wire; (2) Service upgrades; (3) Temporary service disconnect, such as a temporary disconnects at a customer's request to enable tree trimming, weather-head or panel work; and (4) Reconnect service due to disconnects for items such as tree trimming, panel or weather-head work by customer, etc. Units measured: Number of swings/upgrades/disconnects/reconnects. This program relates to safety, reliability, or maintenance because the costs are incurred for timely response, repair, and service per customer requests.

MAT FZA – **General Engineering**—Work primarily covers electric distribution engineering and planning services labor, which includes wires down investigations. This includes costs associated with new OH fault indicators or distribution line monitoring systems and/or line sensors to improve reliability. This program relates to safety, reliability, or maintenance because it directly provides funding to support the electrical engineering work necessary to create the various capital and expense related improvement projects.

MAT FZB – **Voltage Complaints Investigations**—Used for investigating secondary voltage complaints that Troublemen cannot resolve on the first visit, and the setting of recording volt meters for these voltage complaints. This program relates to safety, reliability, or maintenance because it directly provides funding to address voltage issues on distribution circuits to support safe and reliable operation of customer equipment.

MAT FZC – **Transformer Reports Manage**—Used for investigating overloaded and idle transformers. This program relates to safety, reliability, or maintenance because it directly provides funding to address overloaded transformers and mitigate risks of equipment failure caused by overloads.

MAT FZD – **Field Work Plan**—Used for supporting operational field work that engineering personnel initiate, such as phase balancing, and replacing fuses that are projected to be overloaded. This program relates to safety, reliability, or maintenance because it directly provides funding to support the field work necessary to solve overload and imbalance issues, thereby mitigating equipment failure caused by overloads and outages caused by load imbalance.

MAT FZE – **Troublemen Field Work**—Field Personnel performing seasonal, permanent and emergency load transfer field switching, change settings related to seasonal capacitors, or perform special load/voltage readings/setting changes when specifically requested by the Electric Distribution Engineers and directed by the DCC Operator. This program relates to safety, reliability, or maintenance because it directly provides funding to support the field work necessary to resolve voltage issues and provide proper device protection for reliability.

MAT GAA – **Intrusive Inspection Program**—Intrusive testing and treatment of wood poles. Compliance inspection program for 95 and GO 165. Units measured: Number of inspections. This program relates to safety,

reliability, or maintenance because the costs are incurred to determine that poles are in good condition so as to prevent premature failure. In addition, this program satisfies the safety and maintenance requirements of GO 95 and 165.

MAT GAB – **Pole Joint Utilities Maintenance Reimbursement**—Engineer review of pole attachment requests submitted by third-party utilities. This program relates to safety, reliability, or maintenance because it actively works to determine that poles are in good condition so as to prevent premature failure. In addition, this program satisfies the safety requirements by ensuring poles meet the strength and loading requirements of GO 95.

MAT GAC – **Pole Analyze Loading**—Engineer review and analysis of distribution wood pole loading for an overload condition. If the pole is determined to not be overloaded, then assessment and analysis remains in MAT GAC. However, if the pole is determined to be overloaded, then the MAT changes to 07O to replace the pole. This program relates to safety, reliability, or maintenance because it actively works to determine that poles are in good condition so as to prevent premature failure. In addition, this program satisfies the safety requirements by ensuring poles meet the strength and loading requirements of GO 95.

MAT GAD – **Pole Restoration Program**—Reinforce deteriorated, decayed or damaged poles with steel trusses. This program typically follows one year behind Pole Test and Treat program and restores poles to original design strength. Units measured: Number of reinforcements. This program relates to safety, reliability, or maintenance because the costs are incurred to determine that poles are in good condition so as to prevent premature failure. In addition, this program satisfies the safety and maintenance requirements of GOs 95 and 165.

MAT GAF – **Joint Utilities Telecom Engineer Review Non-reimbursed**—Telecommunications engineer pole attachment request review for jointly owned wood poles. This program relates to safety, reliability, or maintenance because it actively works to determine that poles are in good condition so as to prevent premature failure. In addition, this program satisfies the safety requirements by ensuring poles meet the strength and loading requirements of GO 95.

MAT GAH – **Joint Utilities Maintenance Non-reimbursed**—Includes PG&E's membership share of the operating costs and participation in the

Northern California Joint Pole Association and the Joint Pole Database maintenance costs for continued operation. This program relates to safety, reliability, or maintenance because the costs are incurred to determine that poles are in good condition so as to prevent premature failure. In addition, this program enables communication with other utilities, to determine that poles meet the safety, strength and loading requirements of GO 95.

MAT GC1 – **Electric Distribution Substation**: **Engineering Maintenance Support**—Distribution substation costs in engineering and other maintenance support. This program relates to safety, reliability, or maintenance because it includes substation support activities for the maintenance and operation of substation equipment.

MAT GC2 – **Electric Distribution Substation**: **Major Emergency CM**—Distribution substation costs from major emergencies and emergent work. This program relates to safety, reliability, or maintenance because it addresses emergencies and emergent maintenance work to prevent imminent failures.

MAT GCA – **Electric Distribution Substation**: **Transformer Preventive Maintenance**—Distribution substation costs for transformers, regulators, and Load Tap Changer (LTC) Oil Tests. Units measured: Number of oil tests performed. This program relates to safety, reliability, or maintenance because it monitors Transformer and LTC condition and identifies any abnormalities that may lead to a potential mis-operation of the transformer.

MAT GCB – **Electric Distribution Substation**: **Circuit Breaker Preventive Maintenance**—Distribution substation costs for breaker exercises. Units measured: Number of circuit breakers exercised. This program relates to safety, reliability, or maintenance because it confirms functional operation of the circuit breaker.

MAT GCC – **Electric Distribution Substation**: **Relay Preventive Maintenance**—Distribution substation costs for relay functional tests. Units measured: Number of relay scheme tests. This program relates to safety, reliability, or maintenance because it inspects the relay schemes and tests the condition of the relay to prevent mis-operation.

MAT GCD – **Electric Distribution Substation**: **Inspections**—Distribution substation costs for recurring station inspection of equipment. Units measured: Number of substation inspections. This program relates to safety, reliability, or

maintenance because inspections such as Equipment Inspection, Security Check, Environmental Check, and Load Data Collection are performed within the substation.

MAT GCE – Electric Distribution Substation: General Station Preventive Maintenance—Distribution substation costs for preventive maintenance tasks on variety of other types of substation equipment. Units measured: Number of tasks. This program relates to safety, reliability, or maintenance because tests are performed on minor substation equipment (e.g., hot washes, mobile exercises, fire system tests, etc.) not specifically captured under other specified maintenance programs to inspect and identify any abnormalities.

MAT GCF – Electric Distribution Substation: Battery Preventive Maintenance—Distribution substation costs for battery tests. Units measured: Number of batteries. This program relates to safety, reliability, or maintenance because inspections, tests (e.g., resistance and discharge tests) are performed on batteries to identify any abnormalities and determine the batteries can perform as designed.

MAT GCG – Electric Distribution Substation: VM—Distribution substation costs in VM to manage vegetation and other property issues in and around the substation. Routine vegetation control, rodent control, transient encampment clean-up, mowing and other fuel reduction type work for compliance with local laws and administration of the program. This program relates to safety, reliability, or maintenance because it involves maintaining property in and around the substation.

MAT GCH – Electric Distribution Substation: Building Maintenance—Distribution substation costs for substation facility/building and yard work such as repair to breaches in station fences, roof leaks, plumbing repairs, station security such as lighting and card readers, etc. This program relates to safety, reliability, or maintenance because it involves maintaining substation facilities and buildings.

MAT GCI – Electric Distribution Substation: Switch Preventive Maintenance—Distribution substation costs for switch diagnostic/performance tests. Units measured: Number of switches. This program relates to safety,

reliability, or maintenance because diagnostic testing and infrared inspections are performed on switches to identify any abnormal conditions.

MAT GCJ – **Electric Distribution Substation**: **Corrective (T80)**—Distribution substation costs for various substation equipment corrective repair work. This program relates to safety, reliability, or maintenance because it involves the corrective repairs of substation equipment that are identified during inspections or test of substation equipment.

MAT GCM – **Electric Distribution Substation**: **Circuit Breaker Mechanism Services**—Distribution substation costs for breaker mechanism services, including required breaker oil and gas analysis. Units measured: Number of breakers. This program relates to safety, reliability, or maintenance because it involves the mechanism service of the circuit breaker to determine whether it is operating as needed.

MAT GCO – **Electric Distribution Substation**: **Transformer Overhaul Inspections**—Distribution substation costs for transformer/regulator LTC overhaul inspections. Units measured: Number of transformer overhaul inspections. This program relates to safety, reliability, or maintenance because it involves the overhaul inspection of transformer and regulator LTC to detect deterioration or abnormal conditions.

MAT GCS – **Electric Distribution Substation**: **Circuit Switcher & Motor-Operated Air Switch (MOAS) Mechanism Services**—Distribution substation costs for circuit switcher and MOAS mechanism services. Units measured: Number of circuit switcher and MOAS. This program relates to safety, reliability, or maintenance because it involves mechanism service related specifically to the performance of circuit switches and MOAS (e.g., performing open and closing operations manually and/or under remote test conditions).

MAT GCV – **Electric Distribution Substation**: **Circuit Breaker Overhauls**—Distribution substation costs for circuit breaker overhauls. Units measured: Number of circuit breaker overhauls. This program relates to safety, reliability, or maintenance because it involves the circuit breaker overhaul which includes a detailed list of maintenance tasks to determine the circuit breaker is operating as designed.

MAT GCW – **Electric Distribution Substation**: **Station Washes**—Distribution substation costs for station insulator washing. This program relates

to safety, reliability, or maintenance because it involves washing insulators to prevent contamination accumulation that may result in a flashover.

MAT GEO – **Mapping**—Electric Distribution Mapping includes activities such as annexations (city/county boundary and tax changes) and delineations (internal mapping information to external agencies, e.g., engineering firms, other utilities). This MAT also includes Enterprise Records and Information Management (ERIM) work described in MAT GEP. This program relates to safety, reliability, or maintenance because the costs are incurred for the accurate collection of records related to field assets. These records are necessary to determine that field assets are safely, and reliably operated and necessary maintenance is performed in a timely fashion.

MAT GEP – **Records Management**—Records and Information Management labor for full-time employees in execution of the following projects: Field Asset Inventory, Field Records Inventory, Convert Paper Records and Migrate Electronic Records, as well as ongoing business process reviews, change management, process mapping and implementation of PG&E's ERIM Program policies and standards. This program relates to safety, reliability, or maintenance because this work involves a detailed review and validation of Electric field asset data. This information is critical to informing risk-reduction planning activities and safely operating the system on a day-to-day basis.

MAT KAA – **OH General CM Tag**—Repair OH facilities or replace individual components that are not an imminent hazard and have not caused an outage. Facilities include connectors, insulators, low conductors, leaning poles, slack guys, etc. Repair, replace, or install grounds, moldings, leaking bushings, and related work on all OH transformers and equipment associated with transformers. Units measured: Number of notifications. This program relates to safety, reliability, or maintenance because it addresses non-conforming equipment identified by preventative maintenance programs such as inspections and patrols, as well as internal operational processes.

MAT KAC – **Bird Safe Retrofit**—Repair, replace, or install bird-guard materials such as insulated jumpers, bushing covers, line covers, or perching platforms on incident and/or adjacent poles for bird safety, per U.S. Fish and Wildlife Service (USFWS) requirements and Utility Operating Standard

TD-2321S. Units measured: Number of notifications. This program relates to safety, reliability, or maintenance by mitigating outages due to bird incidents.

MAT KAD – **Bird Safe Retrofit Annual**—Install bird-guard materials such as jumper covers, bushing covers, perch guards, or perching platforms on poles identified in the Annual Pole Retrofit Program for bird safety, per USFWS requirements and Utility Operating Standard TD-2321S. Units measured: Number of notifications. This program relates to safety, reliability, or maintenance due to PG&E's commitment made to USFWS to retrofit poles in raptor concentration zones to mitigate bird-related outages.

MAT KAF – **OH Critical COE CM Tag**—Also includes ordering batteries for work in MAT BFG. Units measured: Number of notifications. This program relates to safety, reliability, or maintenance because it addresses non-conforming equipment identified by preventative maintenance programs such as battery and equipment testing, as well as internal operational processes.

MAT KAH – **Streetlight Replace Burnouts**—Repair or replace lamps, photocells, and related items associated with nonoperating streetlights. If the streetlight head needs replacement, the time and material to replace the head is charged to 2AA. If the burnout is caused by a secondary UG failure, the time and material to make the repair is charged to 2BA. Units measured: Number of burnout repairs. This program relates to safety, reliability, or maintenance because it addresses non-conforming equipment identified by customer call-ins and preventative maintenance programs such as Troublemen patrols.

MAT KAK – **RTVI Investigations/Repairs**—Investigation of RTVI where cause is linked to Company equipment. Units measured: Number of investigations. This program relates to safety, reliability, or maintenance because it addresses potential non-conformances identified by customers.

MAT KAM – **Insulator Washing**—Washing pole-mounted insulators. This program relates to safety, reliability, or maintenance because it prevents pole top ignitions.

MAT KAO – **Idle Facilities Investigations Service Planning**—Investigation by Service planning to assess whether identified idle facilities have a foreseeable future use. This program relates to safety, reliability, or maintenance because it identifies whether idle facilities should be removed. If

an idle facility is confirmed, the removal work will fall under MAT codes 2AF and 2BF.

MAT KAP – **OH Expense Projects**—Projects for the replacement of OH electric facilities that are not an imminent hazard and have not caused an outage. Includes pre-planned projects such as actuator board replacements. This program relates to safety and reliability because it mitigates the risk of equipment failure from identified Material Problem Reporting (i.e., all material and/or equipment found as defective, failed, or not meeting PG&E requirements).

MAT KAQ – **Wood Pole Bridge Bonding**—Wood Pole Bonding maintenance activity where an existing wood pole supporting both electric transmission and distribution line facilities is retrofitted with grounding protection to prevent fires that can occur at the location on the pole where the electric distribution cross arm is bolted to the pole. This program relates to safety, reliability, or maintenance because it serves to prevent ignitions.

MAT KAS – **FAS OH Expense**—FAS OH expense is work that is identified during a field job and completed by a single Troubleman. This program relates to safety, reliability, or maintenance because it addresses non-conforming conditions identified by preventative maintenance programs such as Troublemen patrols.

MAT KB# – **Not assigned**—Transformer labor reclassification costs incurred when a transformer is refurbished and reused instead of being replaced with a new unit. Additionally, this MAT includes costs for sand, gravel, spoils and other oil-filled equipment used on a variety of UG jobs. This MAT is used for compliance with Generally Accepted Accounting Principles standards and is not directly related to safety, reliability or maintenance.

MAT KBA – **UG General CM Tag**—Repair UG facilities (including UG infrared tags) or replace individual components that are not an imminent hazard and have not caused an outage. Includes cleaning enclosures, re-securing equipment, resurfacing lids, and tagging; repairing, replacing, or installing grounds, moldings, leaking bushings; and completing related work on all UG transformers and equipment associated with transformers. This program relates to safety, reliability, or maintenance because it addresses

non-conforming equipment identified by preventative maintenance programs such as inspections and patrols, as well as internal operational processes.

MAT KBC – **UG COE CM Tag**—Repair of UG COE. This program relates to safety, reliability and maintenance because it identifies certain asset life replacements (e.g., UG Cable Testing).

MAT KBD – **Nitrogen Cylinders CM**—Replacement of Nitrogen Cylinders (San Francisco and East Bay division only annual nitrogen-cylinder replacements). This program relates to safety, reliability, and maintenance because it maintains sufficient nitrogen levels in cables where leaking naturally occurs.

MAT KBE – **BART Cable Repair**—Repair of 34.5 kV BART Cable issues identified during annual inspections/testing performed under MAT BF3. This program relates to safety, reliability, and maintenance because it checks whether cables are in proper operating condition, remediating problems caused by leaks, corrosion, movement of support tracks, gas pressure, etc.

MAT KBP – **UG Expense Projects**—Projects for the replacement of UG electric facilities that are not an imminent hazard and have not caused an outage. This program relates to safety because it addresses WYE (three-phase star configuration) transformer grounding configurations.

MAT KBQ – **Elbow/Splices Replace**—Costs in this category are for special splicing projects performed to fix portions of cable rather than replacing the entire cable. This program relates to reliability and maintenance because it addresses cable outages to major customers.

MAT KCA – **Network Equipment CM Notifications**—Repairs related to network transformers and NPs. Does not include oil replacement work. Units measured: Number of notifications. This program relates to safety, reliability, or maintenance because it addresses problems found on the network equipment and repairs made to correct those problems in order to maintain a safe and reliable distribution network system.

MAT KCB – **Network Transformer Oil Replacement & 60-Day Follow Up Notifications—**Replacement of oil in network primary termination chambers or network ground switches. Includes resample of network transformer oil. Units measured: Number of oil replacements. This program relates to safety, reliability, or maintenance because it addresses issues identified in sample oil

during laboratory testing. The replacement of the oil at the network transformer chamber is needed to maintain safe operation.

MAT KCC – Network Vault CM Notifications—Vault environmental cleanup. Excludes work associated with network transformers and NPs. Units measured: Number of vault cleanups. This program relates to safety, reliability, or maintenance because it addresses hazardous conditions identified in the vaults. The cleanup is for the safety and health of personnel working inside the vault.

MAT KCD – Network Transformer Preventive Maintenance/Restore Notifications—Annual maintenance on network transformers and associated oil-filled chambers. Includes oil sampling on all chambers and pressure testing of units. Units measured: Number of oil samplings. This program relates to safety, reliability, or maintenance because it addresses the maintenance of network transformers for safe and reliable operation.

MAT KCE – NP Preventive Maintenance Notifications—Routine maintenance of NPs conducted once every three years (triennial). Excludes repairs costing more than $500 or requiring greater than one hour that are covered by MAT category KCA. Units measured: Number of protector maintenance tags. This program relates to safety, reliability, or maintenance because it addresses the maintenance of NPs for safe and reliable operation.

MAT KCF – Fiber Optic/SCADA Communications Repair Notifications—Repair of existing network SCADA and fiber optics systems and includes communication. This program relates to safety, reliability, or maintenance because it addresses the problems found on the existing network SCADA and fiber optics systems and repairs made to correct the problems as needed for safe and reliable operation.

H. New MAT Code Descriptions – Expense

MAT HGC – ADMS Development—Funds the ADMS. Used to track expense associated with the multi-year grid modernization effort to consolidate distribution operational technology platforms into a single platform. This program relates to safety, reliability, or maintenance because it enables outage management applications that include instantaneous fault location, automated switching recommendations and promotes operator awareness of RT circuit conditions. This project directly supports DCC operations.

MAT HGD - Distribution Operational Technology—DCC Systems, Facilities, Installation and Replacement. Used to track expense related to improvements and enhancements at the DCC. This program relates to safety, reliability, or maintenance by supporting the development and daily operation of RT applications/tools that are used to safely operate and maintain distribution reliability.

MAT IGI – Dead and Dying Trees—Reduce risk associated with increased tree mortality due to prolonged drought and bark beetle infestation within PG&E's service territory. Targeted removal of dead and dying trees as well as certain species that pose an increased potential risk of falling into power lines. Includes costs for enhanced vegetation inspection and mitigation, Urban Wild Land tree work, wood management, aerial (smoke) patrol and fire safe council fuel reduction program to help prevent wildfires and protect communities. This program relates to safety, reliability, or maintenance because it addresses wildfire risk.

MAT IGJ – EVM—EVM work is intended to reduce wildfire risk in high fire threat areas. EVM meets standards requiring creating clearances of 12 feet or more at time of trim to ensure compliance until the next inspection. The program covers pre-inspections, tree trims and removals, work validation through quality assurance and quality control, targeted species work, and fuel reduction. This program relates to safety, reliability, or maintenance because it addresses wildfire risk.

I. MAT Code Descriptions – Capital

MAT 06# – Line Voltage Regulator Revolving Stock—Purchase of Line Voltage Regulator Revolving Stock. This program relates to safety, reliability, or maintenance because it corrects voltage issues on distribution circuits to support safe and reliable operation of customer equipment.

MAT 06A – Feeder Projects Associated with Substation Capacity—Includes installation and replacement of UG cable and OH conductor associated with a new substation transformer and feeder. This program relates to safety, reliability, or maintenance because it prevents overloads on substation equipment, mitigating the risk of equipment failure due to overloads.

MAT 06B – Transformer Replace Overloaded—Replacement of transformers identified through overload reports using SmartMeter data,

recorded high oil temperature indicators, or multiple thermal protective device operations during peak load periods. This does not include replacement of transformers identified via the new business, WRO or any other process. Units measured: Number of transformers. This program relates to safety, reliability, or maintenance by replacing transformers identified as overloaded, thereby mitigating the risk of transformer failure due to overloads.

MAT 06D – **Circuits Reinforce – Distribution Planning (DP) Managed**—Installation of new OH and UG facilities or reconductoring of existing facilities with larger wire to meet capacity needs or voltage support. These upgrades are performed to address one of the following possible scenarios: (1) Line Capacity Overload; (2) Under or Over-Voltage Conditions; (3) Operational or Emergency Capacity; and (4) Future UG Facilities in Joint Trench Projects. This MAT covers circuit reinforcement projects managed by DP. This program relates to safety, reliability, or maintenance by replacing distribution equipment that is either presently overloaded or forecast to be overloaded, mitigating the risk of equipment failure due to overloads.

MAT 06E – **Circuits Reinforce – Project Services (PS) Managed**—Installation of new OH and UG facilities or reconductoring of existing facilities with larger wire to meet capacity needs or voltage support. These upgrades are performed to address one of the following possible scenarios: (1) Line Capacity Overload; (2) Under or Over-Voltage Conditions; (3) Operational or Emergency Capacity; and (4) Future UG Facilities in Joint Trench Projects. This MAT covers circuit reinforcement projects managed by PS. This program relates to safety, reliability, or maintenance by correcting overloads on distribution equipment caused by load growth, mitigating the risk of equipment failure due to overloads.

MAT 06G – **Voltage Correct Secondary**—Includes adding or upgrading: (1) existing transformers; (2) secondary distribution conductors; and/or (3) secondary service wires to comply with the voltage requirements of Electric Rule 2. This program relates to safety, reliability, or maintenance by correcting secondary voltage issues to support safe and reliable operation of customer equipment.

MAT 06H – **Electric Distribution Line New Business Performance**—Includes projects identified to address capacity deficiencies related to specific

New Business customer's demand increase. This program relates to safety, reliability, or maintenance by correcting overloads on distribution equipment caused by addition of new customer loads, mitigating the risk of equipment failure due to overloads.

MAT 06I – **Electric Distribution Line Operational Capacity Projects**—Includes OH or UG new facilities or reconductoring of existing facilities with large wire to improve reliability, as well as increase emergency and operational capability of the system. This program relates to safety, reliability, or maintenance because it improves the ability to reconfigure the distribution system, reducing the number of customers impacted by outages and reducing outage restoration times.

MAT 06K – **Power Factor Management**—Includes installing SCADA controls on strategically located electric distribution capacitor banks to allow control setting changes remotely for better power factor management, as well as increased voltage and reactive power support of the system. This program relates to safety, reliability, or maintenance by enabling RT control over power factor correction equipment, and RT solving of voltage issues in order to support safe and reliable operation of customer equipment.

MAT 06P – **Enable Distributed Generation Electric Distribution Line**—Includes installing SCADA controls on strategically located electric distribution regulator banks to allow control setting changes remotely for better control of two-way power flow. This program relates to safety, reliability, or maintenance by enabling RT control over voltage correction equipment, and RT solving of voltage issues in order to support safe and reliable operation of customer equipment.

MAT 07C – **Special Criteria Pole Replacement**—Replace all wooden center-bore poles in the system. Units measured: Number of poles. This program relates to safety, reliability, or maintenance because it actively works to determine whether poles are in good condition and prevents premature failure. In addition, this program enhances overall system safety by replacing poles identified to be nearing the end of their service life, prior to failure.

MAT 07D – **Pole Replacement**—Replace poles identified as deteriorated/damaged and requiring replacement. Units measured: Number of poles. This program relates to safety, reliability, or maintenance because it

actively works to determine whether poles are in good condition so as to prevent premature failure. In addition, this program enhances overall system safety by replacing poles identified to be nearing the end of their service life, prior to premature failure.

MAT 07G – Pole Joint Utility Telecommunications Reimbursement—Pole/Anchor replacement due to an overloaded condition caused by an owner's tenant. This can be driven by a PG&E tenant or another joint owner's tenant. This work is 100 percent reimbursed and managed by the local telecommunications cable attachment project manager. Project Manager must obtain tenant approval prior to creation of an 07G order. Units Measured: Number of poles. This program relates to safety, reliability, or maintenance because it actively works to determine whether poles are in good condition so as to prevent premature failure. In addition, this program enhances overall system safety by replacing poles identified as overloaded, prior to premature failure. The program satisfies the safety requirements by determining poles meet the strength and loading requirements of GO 95.

MAT 07L – Steel Lattice Structures—Replacement or repair of steel lattice structures that carry electric distribution conductor across the Delta to meet various local and state agencies' (San Joaquin, Contra Costa, Alameda, Solano, and Yolo counties) Navigable Waterway height clearance requirements. Units measured: Number of structures. This program relates to safety, reliability, or maintenance because it actively works to determine whether structures are in good condition so as to prevent premature failure. In addition, this program enhances overall system safety by replacing structures identified to be nearing the end of their service life, prior to premature failure.

MAT 07O – Overloaded Pole Replacements—Replace poles identified as overloaded (additional load applied to the pole beyond what it is designed to hold) and requiring replacement. Units measured: Number of poles. This program relates to safety, reliability, or maintenance because it actively works to determine whether poles are in good condition so as to prevent premature failure. In addition, this program enhances overall system safety by replacing poles identified as overloaded, prior to premature failure. The program satisfies safety requirements by ensuring poles meet the strength and loading requirements of GO 95.

MAT 08F – Do Not Use – Cornerstone—costs for work related to PG&E's Cornerstone reliability program. The MAT code is no longer in use, but some costs still settle to Cornerstone project orders. The program relates to safety, reliability or maintenance because the Cornerstone program objective was to improve reliability.

MAT 08J – **Replace Deteriorated OH Conductor**—Targeted replacement of primary OH conductor in non-HFTD areas deemed deteriorated through processes: (1) post wire-down investigation, (2) outage review/safety team recommendation, or (3) input from the system risk model. Starting in 2018, MAT 08J also includes PG&E's Wires-Down Program, which addresses conductors that fail and result in a contact with the ground, a vehicle, or other object. The program consists of the following actions: (1) post wire-down investigation; and (2) splice data review. Units measured: Number of circuit miles. This program relates to safety, reliability, or maintenance because it mitigates the risk of primary OH conductor failure resulting in a potential wire-down event.

MAT 08S – **Replace Obsolete OH Switches**—Replace "grasshopper" OH switches, installed between 1950 and 1970, minimizing potential safety issues and improve reliability during routine and emergency switching operations. Units measured: Number of switches. This program relates to safety, reliability, or maintenance because it replaces obsolete switches that have limited to load-break capabilities.

MAT 08W – Wires Down Generated Projects and System Hardening Wildfire Resiliency Projects—Performing targeted HFTD site-specific primary conductor replacement, secondary conductor replacement, replacement of non-exempt equipment, replacement of OH electric distribution line transformers, replacement of existing wood poles with more resilient poles, upgrades to electrical protective devices and systems through equipment replacements and device programming. Prior to 2018, this MAT was used for OH conductor replacements associated with PG&E's wires-down program; this work has been moved to MAT 08J. Units measured: Number of circuit miles. This program relates directly to safety, reliability, and maintenance because the work can be initiated based on: (1) deteriorated conductor identification, (2) fire-risk ignition modeling, (3) bundling of electric corrective tags identified as

part of the WSIP, or (4) PSPS mitigation; and is completed in compliance with PG&E's Fire Rebuild Design Guidance for System Hardening.

MAT 09A – Electric Distribution Line SCADA Install/Replace—This includes the DA Initiative, installing new RTU to improve visibility, reliability, and operations, and continuing to upgrade and replace obsolete, deficient, and failed automation and protection equipment. Starting in 2020, this work is moving to MAT 49A. This program relates to safety, reliability, or maintenance because it supports the installation of electric distribution line equipment to remotely isolate electric lines and quickly de-energize facilities to address urgent safety issues such as wire down events.

MAT 09B – Electric Distribution Substation SCADA/RTU Replace—Replace obsolete SCADA/RTUs in electric distribution substations to provide visibility and remote controllability to Operations. This program relates to safety, reliability, or maintenance because the work targets proactive replacements of SCADA systems in distribution substations that possess obsolete SCADA and protective relay assets, which, if failed, would jeopardize PG&E's ability to operate the electric facility remotely and properly gather data for system operators.

MAT 09D – Electric Distribution Substation SCADA/RTU Install—Install additional SCADA/RTU in electric distribution substations to provide visibility and remote controllability to Operations. This program relates to safety, reliability, or maintenance because SCADA technology provides the ability for remote distribution operators to operate relays and quickly deenergize downed lines and equipment in support of wildfire risk management. In addition, operational improvements are gained through remotely switching substation equipment, obtaining RT information about the condition of the system, and providing historical data to examine line loading trends, forecast future loading, and perform outage investigations.

MAT 09E – Electric Distribution Substation Protective Relay Install/Replace—Install and replace protective relays in electric distribution substations to maintain optimal system protection and reliability. This program relates to safety, reliability, or maintenance because it covers the proactive replacement of aging substation protective relays. These relays serve the purpose of tripping substation circuit breakers when faults are detected, such as

in cases of wires down resulting in over-current events, protecting power equipment from catastrophic failure and increasing public safety.

MAT 09F – Electric Distribution Substation SCADA Emergency Replace—Miscellaneous and emergency replacement projects initiated and funded by the System Automation & Protection program. This program relates to safety, reliability, or maintenance because it covers in-service failures of substation SCADA equipment and protective relays, as well as emergency replacements of equipment whose risk of failure is imminent, which, if failed, would jeopardize PG&E's ability to remotely operate the electric facility safely.

MAT 21A/21# – Emergency Preparedness & Response Capital—Capital work and projects supporting Emergency Preparedness and Response (EP&R) focused on:

- Addressing one of PG&E's top 3 enterprise risks—a catastrophic emergency incident such as a major earthquake or fire that could affect one or more areas of PG&E's service territory;
- Providing additional fire mitigation actions as precautionary measures to reduce the risk of future wildfire ignitions, including timely detection of wildfires;
- Developing corporate emergency strategy, preparedness, response, and business continuity policies and procedures for gas, electric, and generation; and
- Undertaking key technology projects that support PG&E's emergency preparedness to improve public and system safety, employee safety, reliability, and work efficiency.

This program relates to safety, reliability, or maintenance because it addresses catastrophic emergency incidents, fire mitigations, and corporate emergency strategy.

MAT 2AA – OH General Replacement—Replace deteriorated OH facilities that are not an imminent hazard and have not caused an outage. Facilities include crossarms, leaking transformers, and conductor. Units measured: Number of notifications. This program relates to safety, reliability, or maintenance because it addresses a non-conformance identified by preventative maintenance programs such as inspections and patrols, as well as internal operational processes.

MAT 2AB – **Bird Safe Install/Replacement**—Capital modification work and retrofits to distribution poles and/or adjacent poles in order to address bird-safety incidents, per USFWS requirements and Utility Operating Standard TD-2321S. Units measured: Number of notifications. This program relates to safety and reliability by mitigating outages due to bird incidents.

MAT 2AC – Bird Safe Install/Replacement Annual—Capital modification work made to distribution poles as part of the annual pole retrofit program to address bird-safety issues, per USFWS requirements and Utility Operating Standard TD-2321S. Units measured: Number of notifications. This program relates to safety, reliability, or maintenance due to PG&E's commitment made to USFWS to retrofit poles in raptor concentration zones to mitigate bird-related outages.

MAT 2AE – **OH COE Replacement**—Replace OH equipment classified as COE. Units measured: Number of notifications. This program relates to safety, reliability, or maintenance because it addresses non-conforming equipment identified by preventative maintenance programs such as equipment testing, as well as internal operational processes.

MAT 2AF – **OH Idle Facility Remove**—Removal of OH Idle Facilities that have no likely foreseeable future use. Units measured: Number of facilities. This program relates to safety and maintenance because it removes equipment no longer in use and therefore no longer requiring maintenance.

MAT 2AG – **San Francisco Series Streetlights**—Replacement of the RO streetlights, also referred to as constant-current streetlight systems, owned and operated by PG&E in San Francisco. This project will replace the existing RO loops with the type of streetlight circuits used elsewhere is PG&E's system. This program relates to safety and maintenance because it provides illumination for pedestrian and vehicular traffic.

MAT 2AH – **LED Streetlights**—Replacement of PG&E-owned and maintained decorative streetlights (LS-1) with more efficient, longer-life fixtures and new photo controllers. Units measured: Number of streetlights. This program relates to safety and maintenance because it provides longer-life streetlights and better illumination for pedestrian and vehicular traffic.

MAT 2AI – **San Francisco Historical Streetlights**—Replacement or refurbishment of cast-iron decorative streetlights in the Golden Triangle/Union

Square area of San Francisco that have been found to have corroded steel support poles. This program relates to safety and maintenance because it provides illumination for pedestrian and vehicular traffic.

MAT 2AP – **OH Capital Projects**—Major OH projects, defined as jobs costing more than $100,000 per location. This program relates to safety and maintenance because it includes replacement of (1) non-exempt fuses with exempt fuses for wildfire mitigation, and (2) non-wood/metallic or concrete streetlight poles and foundations that have extensive corrosion or damage.

MAT 2AQ – **Ceramic Post Insulators**—Replacement of ceramic post insulators that were manufactured in or prior to 1972 and are currently installed on PG&E poles. This program relates to safety, reliability, and maintenance because it replaces ceramic post insulators prior to failure.

MAT 2AR – **Surge Arrester Replacement**—Replacement of current (non-exempt) surge arresters with exempt surge arresters to reduce fire risk from electric distribution operations. Non-exempt surge arresters are OH electric distribution equipment that have the potential to expel hot or molten material upon normal operation, leading to an increased risk of wildfire. Units measured: Number of replacements. This program relates to safety and maintenance because it includes replacing equipment to mitigate wildfire risk and correcting common grounding issues that pose a safety risk.

MAT 2AS – **FAS OH Capital**—FAS OH capital is work that is identified during a field job and completed by a single Troubleman. The work could involve either replacing or installing OH facilities: Electric distribution conductors, components, structures, and associated equipment constructed above ground level. Units measured: Number of notifications. This program relates to safety, reliability, or maintenance because it addresses non-conforming conductors, components, structures, and associated equipment identified by Troublemen.

MAT 2B# – **Not assigned**—Sand, gravel, spoils and oil-filled equipment used on a variety of UG jobs. This program relates to safety, reliability, or maintenance because this material is used on UG work associated with safety, reliability and maintenance.

MAT 2BA – **UG General Replacement**—Replace deteriorated UG facilities that are not an imminent hazard and have not caused an outage. Facilities

include deteriorated transformers, conduits, enclosures, pads, and idle equipment. Units measured: Number of notifications. This program relates to safety, reliability, or maintenance because it addresses non-conforming facilities identified by preventative maintenance programs such as inspections and patrols, as well as internal operational processes.

MAT 2BB – **Fault Indicator Replacements**—Replace deteriorated fault indicators that are not an imminent hazard and have not caused an outage. Units measured: Number of fault indicators. This program relates to reliability because in the event of an outage it helps sectionalize the outage area.

MAT 2BD – **UG COE Replacement**—Replace UG equipment determined COE by the division operators, Maintenance and Construction, and restoration, and validated by Distribution Engineers. Units measured: Number of notifications. This program relates to reliability and maintenance because it identifies certain asset replacements.

MAT 2BF – **UG Idle Facility Remove**—Removal of UG Idle Facilities that do not to have a likely use in the foreseeable future. This program relates to safety and maintenance because it removes equipment no longer in use and no longer requiring maintenance.

MAT 2BP – **UG Capital Projects**—Major UG projects, defined as jobs costing more than $100,000 per location. This program relates to safety, reliability, or maintenance because it addresses non-conforming equipment identified by preventative maintenance programs such as inspections and patrols, as well as internal operational processes.

MAT 2CA – **NP Relay Replacement**—Replacement of an NP relay as part of planned replacement program. Units measured: Number of replacements. This program relates to safety, reliability, or maintenance because it addresses the replacement of any inoperable NP relays to maintain a safe and reliable distribution network system.

MAT 2CB – **Fiber/SCADA Communication Replace**—Installation of new network monitoring systems for the distribution networks, including sensor installation, communications, fiber optic replacement and programming activities. Includes any upgrade/replacement work to the existing network SCADA systems for reliable operations until new SCADA systems are installed (not part of the new monitoring system as part of MAT 2CE). This program relates to safety,

reliability, or maintenance because it addresses the replacement of any inoperable existing SCADA system and related components, including fiber optics, to maintain a safe and reliable distribution network system.

MAT 2CC – **Network Transformer & Protector Replace**—Planned replacement of electric distribution network transformers, including those with deteriorated oil condition or high-rise locations. Units measured: Number of replacements. This program relates to safety, reliability, or maintenance because it addresses the replacement of both network transformer and NP including high rise locations to maintain a safe and reliable distribution network system.

MAT 2CD – **Venting Manhole Covers Replacement**—Replacement of existing manhole covers on the electric distribution network and distribution radial systems with venting manhole covers. Units measured: Number of replacements. This program relates to safety, reliability, or maintenance because it addresses public safety in the event of an electrical failure in an UG vault and the possible ejection of the manhole cover.

MAT 2CE – **Network SCADA Communications Upgrade**—Installation of new network SCADA monitoring systems for the electric distribution networks, including sensor installation, communications, fiber optic replacement and programming activities. This program relates to safety, reliability, or maintenance because the new safety monitoring system provides information to help prevent in-service failure of the monitored equipment in the distribution network system.

MAT 46A – **Electric Distribution Substation General Install/Replace**—Projects to support general electric distribution substation capacity increases for banks, bus, feeders, or other substation components that do not fall into one of the other MWC 46 MATs. This program relates to safety, reliability, or maintenance because it creates additional substation capacity in order to prevent overloads on substation equipment, mitigating the risk of equipment failure due to overloads.

MAT 46F – **Electric Distribution Substation Emergency and Operational Capacity**—Projects identified in this MAT increase electric distribution capacity by upgrading banks, bus, feeders, or other substation components to improve reliability by providing emergency capacity and/or operational flexibility at the

bank and feeder level. This program relates to safety, reliability, or maintenance because it improves the ability to reconfigure the distribution system, reducing the number of customers impacted by outages and reducing outage restoration times.

MAT 46H – Electric Distribution Substation New Business Related Capacity—These projects are like other projects under MWC 46; however, these projects have been identified to address capacity deficiencies for specific New Business customers' demand increase. This program relates to safety, reliability, or maintenance because it creates additional substation capacity in order to serve new customer loads, mitigating the risk of equipment failure due to overloads.

MAT 46N – Electric Distribution Substation Land Purchase New Substation—Includes projects to increase area electric distribution substation capacity by siting, permitting, and constructing new substations. This program relates to safety, reliability, or maintenance because it works towards siting a new substation that adds additional substation capacity in order to prevent overloads on substation equipment, mitigating the risk of equipment failure due to overloads.

MAT 46T – Electric Distribution Substation Support Transmission or Substation Related Work—Projects identified in this MAT replace or relocate electric distribution substation equipment to support a related Transmission bus reconfiguration or voltage conversion or Substation condition-based replacement projects. This program relates to safety, reliability, or maintenance because it supports work that creates additional transmission capacity in order to mitigate the risk of equipment failure due to overloads. It also supports proactive substation replacement work intended to prevent failures and maintain reliability.

MAT 48A – Replace Electric Distribution Substation Other Equipment—Replace other electric distribution substation equipment, such as ancillary equipment, ground grids, etc. Includes replacement projects with complex or wide-ranging scope of work that include various equipment types. This program relates to safety and reliability because it involves the replacement of various substation equipment (e.g., ancillary equipment, ground grid upgrade, etc.) not specifically captured under other specified programs under MWC 48 to maintain reliability.

MAT 48B – **Replace Electric Distribution Substation Regulators**—Replace regulators that are electric distribution substation assets, mainly electric distribution class (less than 50 kV), single-phase or three-phase. This program relates to reliability because it involves the proactive planned replacement of substation regulators aimed to prevent regulator failures and to maintain reliability.

MAT 48C – **Replace Electric Distribution Substation Batteries**—Replace battery system at electric distribution substation. Units measured: Number of batteries. This program relates to reliability because it targets the replacement of substation batteries to minimize reliability risk due to battery failures.

MAT 48D – **Replace Electric Distribution Substation Breakers**—Replace electric distribution substation circuit breakers. This program relates to reliability because it involves the proactive planned replacement of circuit breakers aimed to prevent failures and maintain reliability.

MAT 48E – **Replace Electric Distribution Substation Switches**—Replace electric distribution substation disconnect switches. This program relates to reliability because it targets the replacement of switches to maintain reliability.

MAT 48F – **Replace Electric Distribution Substation Switchgear**—Replace electric distribution substation switchgear equipment. This program relates to reliability because it targets the replacement of switchgear to improve reliability.

MAT 48H – **Replace Electric Distribution Substation Civil Structures**—Replace civil structures (structures, foundation, etc.) that are electric distribution substation assets. This program relates to safety and reliability because it replaces civil structures to prevent interruption of service and to mitigate safety hazard to personnel.

MAT 48L – **Electric Distribution Line Work Support Substation**—Includes work required on electric distribution lines associated with substation equipment replacement work. This program relates to reliability because it retrofits distribution lines and associated equipment work in conjunction with distribution work (e.g., cutovers – 4 kV to 12 kV, switchgear and transformer replacement).

MAT 48N – **Electric Distribution Substation Insulators**—Replacement of electric distribution insulators that have reached end-of-life. This program

relates to reliability because it targets the replacement of insulators to minimize equipment damages leading to sustained outages.

MAT 48R – **Electric Distribution Substation Reactors**—Replacement of electric distribution reactors that have reached end-of-life. This program relates to reliability because it replaces reactors to maintain reliability.

MAT 48X – **Electric Distribution Substation Animal Abatement**—Animal abatement program retroactively mitigates substations to prevent animal contacts. Units measured: Number of substations mitigated. This program relates to reliability because it involves the abatement of substation assets to prevent equipment damage and customer outages due to animal contacts.

MAT 49# – **Line Reclosers Revolving Stock**—Purchase Line Reclosers Revolving Stock. This program relates to safety, reliability, or maintenance because it provides a centralized inventory of equipment to support various safety and reliability programs such as PG&E's PSPS Program, targeted electric reliability improvements, and distribution line automation.

MAT 49B – **Recloser Control Install/Replace**—Strategic upgrade of recloser controls (units in-service, not deteriorated or damaged), includes minor communication, or other minor upgrades to expand or improve SCADA coverage and improve reliability. Units measured: Number of recloser controls. This program relates to safety, reliability, or maintenance because it provides replacement electronic recloser controls to improve the functionality of distribution line protective devices.

MAT 49C – **OH Fuses Install/Replace**—Install New OH Fuses to improve reliability. Units measured: Number of fuses. This program relates to safety, reliability, or maintenance because it provides funding to support the installation of devices to quickly de-energize faulted lines and improve electric reliability to customers.

MAT 49D – **OH Recloser/Sectionalizers/Switch Install/Replace**—Install New Reclosers, Sectionalizers, OH Switches or solid blade disconnects to improve reliability. Units measured: Number of devices. This program relates to safety, reliability, or maintenance because it directly funds the installation of electrical equipment designed to isolate faulted lines and improve electric service reliability to customers.

MAT 49E – **General Installations/Replace Circuits/Zone**—Line work that typically includes reliability work, such as protective devices, reframing lines, installing tree wire, etc.: Targeted Circuit Program, as well as system or city/community programs to improve reliability. Units measured: Number of circuits. This program relates to safety, reliability, or maintenance because it directly funds the installation of various electrical equipment designed to isolate faulted lines, prevent electrical outages, and improve electric service reliability to customers.

MAT 49F – **UG Fuses Install/Replace**—Install or replace UG fuses to improve reliability. Units measured: Number of fuses. This program relates to safety, reliability, or maintenance because it directly funds the installation of various electrical UG equipment designed to isolate faulted lines, limit the scope of electrical outages, and improve electric service reliability to customers.

MAT 49G – **UG Recloser/Sectionalizers/Switch Install/Replace**—Install or replace UG interrupters to improve reliability. Units measured: Number of devices. This program relates to safety, reliability, or maintenance because it directly funds the installation of various electrical UG equipment designed to isolate faulted lines, limit the scope of electrical outages, and improve electric service reliability to customers.

MAT 49H – **PSPS Sectionalizer Device Install/Replace**—Install or replace UG fault indicators to improve reliability. Units measured: Number of devices. This program relates to safety and reliability because it directly funds the installation of automated electrical equipment designed to isolate faulted lines, limit line reclosing, and facilitate the remote opening and closing of switches necessary to efficiently implement PSPS.

MAT 49I – **OH Fault Indicators/Line Sensors Install/Replace**—Install new OH fault indicators or distribution line monitoring systems and/or line sensors to improve reliability. Units measured: Number of devices. This program relates to safety, reliability, or maintenance because it provides funding to support the installation of devices which assist with quickly identifying faulted lines leading to improved electric reliability to customers.

MAT 49M – **Resilience Zones**—Build resilience zones around Pre-Installed Interconnection Hubs (PIH)—permanent, “plug and play” infrastructure enabling temporary generation to connect to the electric distribution grid at

pre-determined locations. Generally, PIHs will consist of a transformer and associated interconnection equipment, ground grid, and grid isolation and protection devices. This program relates to safety and reliability because it improves public safety through wildfire prevention, limits the number of customers impacted by PSPS outage events, and reduces the unplanned outage frequency and duration.

MAT 49S – **Electric Reliability Install FLISR Systems**—The FLISR automation system reduces the effect of outages to customers by quickly opening and closing automated switches. This is the same automation work done previously under the Cornerstone project. Units measured: Number of circuits. This program relates to safety, reliability, or maintenance because it directly funds the installation of various electrical equipment designed to isolate faulted lines, limit the scope of electrical outages, and improve electric service reliability.

MAT 49T – **Electric Distribution Trip Saver II Cutout Mounted Line Recloser**—Install new TripSaver equipment, single unit (per phase) recloser. Units measured: Number of devices. This program relates to safety, reliability, or maintenance because it directly funds the installation of electrical OH equipment designed to isolate faulted lines, single phase or gang tripping, limit the scope of electrical outages, and improve electric service reliability.

MAT 49X – **Emerging Electric Distribution Reliability Improvements**—Emergent Reliability projects focused on addressing localized reliability issues not covered by broad, system-wide reliability programs. This program relates to safety, reliability, or maintenance because it directly funds the installation of various electrical equipment designed to isolate faulted lines, limit the scope of electrical outages, and improve electric service reliability.

MAT 54A – **Electric Distribution Substation – Replace Transformer**—Replace Electric Distribution Substation Transformers to maintain and improve substation reliability. This program relates to reliability, because it involves the proactive planned replacement of substation transformers in order to improve substation reliability and prevent transformer failures.

MAT 56A – **UG Cable Other Replace**—Capital work associated with UG primary cable systems, including replacement of UG cables and associated components. Units measured: Number of miles. This program relates to

safety, reliability, or maintenance because it replaces UG cables in areas that have experienced two or more cable failures within five years. Many of these cables are unjacketed High Molecular Weight Polyethene (HMWPE) or Cross-Linked Polyethylene (XLPE) cables that have been evaluated through cable testing or cable rejuvenation (MAT 56B program) and showed signs of insulation and/or concentric neutral deterioration, some of which had complete neutral breaks.

MAT 56B – **UG Cable Rejuvenation and Testing**—Rejuvenation (injection) of primary UG cables to restore insulation integrity, or partial discharge testing of primary UG cables, for targeted replacement work performed under MAT 56A. This program relates to safety, reliability, or maintenance because it evaluates the condition of HMWPE and XLPE UG cables in areas that have experienced two or more failures within five years. The program evaluates and identifies sections of cables that have severe insulation and/or concentric neutral deterioration, which are then prioritized for replacement under MAT 56A.

MAT 56C – **UG Cable COE Replace**—Primary UG cable replacement required to address failed primary cable sections noted on the COE list. Units measured: Number of projects. This program relates to safety, reliability, or maintenance because it replaces sections of cables that have failed and are out of operation.

MAT 56D – **TGRAM/TGRAL Switch Replacement**—Replacement of UG TGRAM/TGRAL switches. Units measured: Number of replacements. This program relates to safety because it replaces switches that have been in service since the 1950s and 1960s, and for which the insulating oil to make or break load cannot be properly tested and is considered suspect.

MAT 56N – **Network Cable Replacement**—Systematic replacement of network cable assets in San Francisco and Oakland. The work involves replacing primary and secondary cables and installing new equipment. This program relates to safety, reliability, or maintenance because the network cable system is located in urban areas where the public potentially could be near energized equipment. These factors require a safety driver to minimize in-service failure; a reliability driver to minimize service outages impacting customers; and a maintenance driver to execute a consistent

asset-management strategy for the safety and operating performance of the system to balance risk, performance, and cost.

MAT 56S – **Replace Obsolete UG Switches**—Proactive replacement of UG oil-filled switches whose condition warrants replacement in order to avoid potential failures. Units measured: Number of replacements. This program relates to safety because it focuses on the replacement of subsurface switches that have been in service for more than 45 years, and for which the quality of the insulating oil is considered suspect.

MAT 56T – **Install Temperature Indicator**—Install Distribution Temperature Monitor, otherwise known as Temperature Alarm Devices, for Subsurface Distribution Assets (Subsurface Transformers, LBOR Switches and 600 ampere Mainline Switches). This program relates to safety because it installs temperature indicators to safely and proactively replace UG assets that are continuously running above allowable temperature or exhibiting thermal runaway conditions (very quick temperature rises).

MAT 58A – **Electric Distribution Substation Safety, Environmental, Fire Protection** – Replace or install fire protection in electric distribution substation assets. This program relates to safety and reliability because it involves the installation and/or upgrades of fire suppression systems which minimizes the probability of fire occurrences that could lead to interruption of service and/or property loss.

MAT 58B – **Replace Electric Distribution Substation Civil Structures**—Replace civil structures in electric distribution substation assets. This program relates to safety and reliability because it replaces civil structures to prevent safety risk to employees or public, and/or interruption of service.

MAT 58C – Replace Distribution Substation Miscellaneous Equipment—Distribution Substation miscellaneous equipment replacements. This program relates to safety, reliability, or maintenance because it provides for replacement of distribution substation miscellaneous equipment.

MAT 58S – Electric Distribution Substation Security Upgrades—Replace, upgrade or install security in electric distribution substation assets. This program relates to safety and reliability because it installs, upgrades or replaces security systems (physical or technology) to provide safety to employees and prevent vandalism.

J. New MAT Code Descriptions – Capital

MAT 49A – Distribution Line Automation—This includes the DA Initiative, installing new RTU to improve operating control and visibility plus continuing to upgrade and replace obsolete, and deficient SCADA equipment. Prior to 2020, this work was recorded in MAT 09A. This program relates to safety, reliability, or maintenance because it supports the installation of electric distribution line equipment to remotely isolate electric lines and quickly de-energize facilities to address urgent safety issues such as wire down events.

MAT 49R - Grid Modernization Technology—This includes projects and programs that install new and advancing technologies on the distribution system. These technologies are designed to enhance standard protection and controls and identify problems that traditional systems did not detect. This program relates to safety, reliability, or maintenance because it supports reducing risk and improving overall safety. Initial projects will install Rapid Earth Fault Current Limiter on circuits within the Tier 2 and Tier 3 HFTD areas to reduce the risk of ignition from a wire down condition.

MAT 63C – ADMS Development—Funds the ADMS. Used to track capital associated with the multi-year grid modernization effort to consolidate distribution operational technology platforms into a single platform. This program relates to safety, reliability, or maintenance because it enables outage management applications that include instantaneous fault location, automated switching recommendations and promotes operator awareness of RT circuit conditions. This project directly supports DCC operations.

MAT 63D - Distribution Operational Technology—DCC Systems, Facilities, Installation and Replacement. Used to track capital improvements and enhancements at the DCCs. This program relates to safety, reliability, or maintenance by supporting the development and daily operation of RT applications/tools that are used to safely operate and maintain distribution reliability.

K. Electric Distribution Supplemental Reporting

TABLE 3-5
ELECTRIC DISTRIBUTION 2020 UNIT REPORT

Line No.	Description	2020 Actual Units
1	Wood Poles replaced through Pole Replacement and other Company programs	30,947
2	Stand-alone circuit breakers replaced or installed across all Company programs	43
3	Miles of Paper Insulated Lead Cable replaced across all Company programs	5.13
4	Miles of HMWPE cable, respectively, replaced across all Company programs	20.68
5	Miles of HMWPE cable, respectively, rejuvenated across all Company programs	0.0
6	Miles of OH conductor replaced or installed across all Company programs	526.08
7	Grasshopper switches replaced across all Company programs	9
8	FLISR installations in the Reliability Program	16
9	OH fuse installations across all Company programs	4,413

TABLE 3-6
ELECTRIC DISTRIBUTION 2020 SURGE ARRESTER PROGRESS REPORT
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	Description	Amount
1	Capital (MAT 2AR) Total Program Spend:	$63,498
2	Units Completed	14,362
3	Locations in PG&E's survey identified as not requiring work:	1,701

TABLE 3-7
ELECTRIC DISTRIBUTION WOOD POLE COUNT BY AGE

Line No.	Wood Pole Count by Age	
	Age (Years)	Number of Poles
1	1-5	109,066
2	6-10	109,097
3	11-15	75,148
4	16-20	86,280
5	21-25	132,255
6	26-30	107,798
7	31-35	160,933
8	36-40	157,157
9	41-45	191,984
10	46-50	184,865
11	51-55	146,882
12	56-60	184,114
13	61-65	180,888
14	66-70	171,305
15	71-75	121,705
16	76-80	25,845
17	81-85	11,250
18	86-90	4,037
19	91-95	4,128
20	96-100	455
21	Unavailable	116,023
22	Total	2,281,215

PACIFIC GAS AND ELECTRIC COMPANY

SECTION 4

ENERGY SUPPLY IMPUTED ADOPTED VS. RECORDED COMPARISON

PACIFIC GAS AND ELECTRIC COMPANY
SECTION 4
ENERGY SUPPLY IMPUTED ADOPTED VS.
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PACIFIC GAS AND ELECTRIC COMPANY
SECTION 4
ENERGY SUPPLY IMPUTED ADOPTED VS. RECORDED COMPARISON

A. Introduction

This section includes the following information for the Nuclear Generation and Power Generation portions of the Energy Supply line of business (LOB): a comparison of the total 2020 imputed adopted spend vs. the actual spend and for those programs that are related to safety, reliability, or maintenance the Major Work Category (MWC) descriptions, imputed adopted vs. actuals comparison details and variance explanations. In addition, per Decision (D.) 19-04-020, the MWC descriptions include an explanation of how each program/project relates to safety, reliability, or maintenance.

B. Nuclear Generation Comparison Summary Tables

TABLE 4-1
NUCLEAR GENERATION 2020 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs ($000) (A)	2020 Actual Costs ($000) (B)	2020 Cost Difference ($000) (B-A)
1	Misc Expense	AB	14,700.0	(37.8)	(14,737.8)
2	Manage Environmental Oper	AK	1,945.5	1,996.0	50.4
3	Manage DCPP Business	BP	14,064.1	13,246.7	(817.4)
4	DCPP Support Services	BQ	47,828.1	48,876.9	1,048.9
5	Operate DCPP Plant	BR	85,587.5	78,522.8	(7,064.7)
6	Maintain DCPP Plant Assets	BS	103,526.0	109,165.0	5,639.0
7	Nuclear Generation Fees	BT	15,286.3	15,899.0	612.6
8	Procure DCPP Materials & Svcs	BU	0.0	(1,110.7)	(1,110.7)
9	Maintain DCPP Plant Configurtn	BV	42,503.0	38,727.6	(3,775.5)
10	Mnge Waste Disp & Transp	CR	0.0	0.0	0.0
11	Provide Nuclear Support	EO	61.0	(23.3)	(84.3)
12	Maintain IT Apps & Infra	JV	666.0	622.7	(43.3)
13	Operational Management	OM	7,939.6	8,084.2	144.6
14	Operational Support	OS	18,334.0	26,229.5	7,895.5
15	Manage Var Bal Acct Processes	IG	5,555.2	2,942.8	(2,612.5)
16	**Total**		**357,996.4**	**343,141.3**	**14,855.2**

TABLE 4-2
NUCLEAR GENERATION 2020 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs ($000) (A)	2020 Actual Costs ($000) (B)	2020 Cost Difference ($000) (B-A)
1	Office Furniture & Equipment	03	96.4	0.0	(96.4)
2	Fleet / Auto Equip	04	0.0	0.0	0.0
3	Tools & Equipment	05	618.9	421.8	(197.1)
4	Build IT Apps & Infra	2F	4,861.9	7,826.0	2,964.1
5	DCPP Capital	20	38,362.5	43,282.8	4,920.3
6	Nuclear Safety and Security	3I	0.0	5,944.7	5,944.7
7	**Total**		**43,939.7**	**57,475.3**	**13,535.6**

C. Nuclear Generation Comparison by MWC Code for Safety, Reliability, and Maintenance Work Tables

TABLE 4-3
NUCLEAR GENERATION 2020 EXPENSE COMPARISON BY MWC FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs ($000) (A)	2020 Actual Costs ($000) (B)	2020 Cost Difference ($000) (B-A)	2020 Cost Percent Change (%) (B-A)/A	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Cost Variance Explanation
1	AB	Misc Expense	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), pp. 3-56 to 3-57	14,700.0	(37.8)	(14,737.8)	-100.3%	YES	YES	Program expenses were below imputed regulatory values due to the GRC imputed adopted costs of the second refueling outage being levelized over the 3-year GRC period (2020-2022). The GRC imputed adopted levelized amount of approximately $15M annual. The actual costs for this outage will be recorded in 2022 when the outage is scheduled.
2	BQ	DCPP Support Services	Core Damaging Event	Security from External and Internal Threats, and Emergency Response	Exhibit (PG&E-5), pp. 3-59 to 3-60	47,828.1	48,876.9	1,048.9	2.2%	NO	NO	Below variance threshold.
3	BP	Manage DCPP Business	Core Damaging Event	Independent Oversight and Training	Exhibit (PG&E-5), pp. 3-58 to 3-59	14,064.1	13,246.7	(817.4)	-5.8%	NO	NO	Below variance threshold.
4	BR	Operate DCPP Plant	Core Damaging Event	Operating the Facility Within Requirements	Exhibit (PG&E-5), pp. 3-60 to 3-61	85,587.5	78,522.8	(7,064.7)	-8.3%	NO	NO	Below variance threshold.
5	BS	Maintain DCPP Plant Assets	Core Damaging Event	Maintaining the Systems	Exhibit (PG&E-5), pp. 3-62 to 3-64	103,526.0	109,165.0	5,639.0	5.4%	NO	NO	Below variance threshold.
6	BV	Maintain DCPP Plant Configurtn	Core Damaging Event	Plant and System Configuaration Control	Exhibit (PG&E-5), pp. 3-65 to 3-66	42,503.0	38,727.6	(3,775.5)	-8.9%	NO	NO	Below variance threshold.
7	IG	Manage Var Bal Acct Processes	Core Damaging Event	Regulatory Required Improvements and Ongoing Seismic Evaluations	Exhibit (PG&E-5), pp. 3-68 to 3-70	5,555.2	2,942.8	(2,612.5)	-47.0%	NO	NO	Below variance threshold.

TABLE 4-4
NUCLEAR GENERATION 2020 CAPITAL COMPARISON BY MWC FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs ($000) (A)	2020 Actual Costs ($000) (B)	2020 Cost Difference ($000) (B-A)	2020 Cost Percent Change (%) (B-A)/A	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Cost Variance Explanation
1	20	DCPP Capital	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), pp. 3-49 to 3-56	38,362.5	43,282.8	4,920.3	12.8%	NO	NO	Below variance threshold.
2	3I	Nuclear Safety and Security	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), pp. 3-49 to 3-56	0.0	5,944.7	5,944.7	100.0%	NO	NO	Below variance threshold.

D. Nuclear Generation MWC Descriptions – Expense

MWC AB – Support – Includes miscellaneous support cost from both within and outside of Nuclear Generation. Also, used for General Rate Case (GRC) imputed adopted for levelizing the cost of nuclear refueling outages when two outages are forecast to occur in a single year. Refueling outage recorded costs are recorded in other MWCs as appropriate. This MWC relates to safety, reliability, or maintenance because the costs are associated with levelizing the cost of nuclear refueling outages when two outages are forecast to occur in a single year, consistent with keeping the generation facilities reliable.

MWC AK – Manage Environmental Operations – Includes managing the environmental protection programs mandated by federal, state, and local regulations. This MWC is not related to safety, reliability, and/or maintenance.

MWC BP – Manage Diablo Canyon Nuclear Power Plant (DCPP) Business – Includes: (1) all activities associated with representing Pacific Gas and Electric Company (PG&E) and providing technical input to committees, owners groups, industry, professional and trade associations that support electric utilities; (2) dues to the Institute of Nuclear Power Operators, Nuclear Energy Institute, Strategic Teaming and Resource Sharing, and Diablo Canyon Independent Safety Committee; (3) land management activities; and (4) planned emergent work funding for the entire Nuclear Generation organization. This MWC relates to safety, reliability, or maintenance because the costs are associated with the above programs, consistent with keeping the generation facility safe and reliable.

MWC BQ – DCPP Loss Prevention – Includes support for the management and implementation of the Security, Industrial Safety and Health, Emergency Preparedness and Fire Protection programs. This MWC relates to safety, reliability, or maintenance because the costs are associated with Security, Industrial Safety and Health, Emergency Preparedness and Fire Protection programs, consistent with keeping the generation facility safe.

MWC BR – Operate DCPP Plant – Includes all activities to operate the plant, radiation control, monitoring of plant chemistry, managing radioactive waste and hazardous waste generation, nuclear fuel movement, and reactor physics testing. This MWC relates to safety, reliability, or maintenance because

the costs are associated with the above programs, consistent with keeping the generation facility safe and reliable.

MWC BS – Maintain DCPP Plant Assets – Includes all preventative and corrective maintenance activities for systems, structures, and components at the plant. This MWC relates to safety, reliability, or maintenance because the costs are associated with maintaining generation equipment.

MWC BT – Nuclear Generation Fees – Includes Nuclear Regulatory Commission (NRC) license fees and supporting contracts to conduct training programs for license and non-license operator, maintenance, engineering, and all general employee training development and delivery. This MWC is not related to safety, reliability, and/or maintenance.

MWC BU – Procure DCPP Materials & Services – Includes cost for under/over clearing of material burden. This MWC is not related to safety, reliability, and/or maintenance.

MWC BV – Maintain DCPP Plant Configuration – Includes design engineering, system engineering, component engineering, reactor engineering, in service testing and inspection, reliability engineering, and fire protection engineering. This MWC relates to safety, reliability, or maintenance because the costs are associated with the above programs, consistent with keeping the generation facility safe and reliable.

MWC CR – Manage Waste Disposal and Transportation – Includes cost for disposal and transportation of site hazardous waste. This MWC is not related to safety, reliability, and/or maintenance.

MWC EO – Provide Nuclear Support – Includes cost for plant support provided by PG&E's Corporate Support organizations such as security and communications. This MWC is not related to safety, reliability, and/or maintenance.

MWC IG – Manage Balancing Account Processes – Includes costs subject to the 2-way balancing account established for Nuclear Safety and Security regulatory mandated projects. This MWC relates to safety, reliability, or maintenance because the costs are associated with nuclear safety and security, consistent with keeping the generation facility safe.

MWC JV – Maintain Applications and Infrastructure – Includes costs for ongoing maintenance, operations and repair for PG&E's Information Technology

(IT) applications, systems and infrastructure. This MWC is not related to safety, reliability, and/or maintenance.

MWC OM – Operational Management – Includes labor- and employee-related costs to provide supervision and management support. MWC OM also includes costs incurred by the administrative staff working for the supervisors/managers. This MWC is not related to safety, reliability, and/or maintenance.

MWC OS – Operational Support – Includes labor- and employee-related costs to provide services and support that are unrelated to supervision and management. Examples include Business Finance and Sourcing that support the LOBs. This MWC is not related to safety, reliability, and/or maintenance.

E. Nuclear Generation MWC Descriptions – Capital

MWC 03 – Office Furniture and Equipment – Includes capital costs to replace office furniture and equipment. This MWC is not related to safety, reliability, and/or maintenance.

MWC 04 – Fleet/Auto Equipment – Includes replacement of station fleet/auto equipment which has been in use longer than their useful life. This MWC is not related to safety, reliability, and/or maintenance.

MWC 05 – Tools and Equipment – Includes replacement of tools and shop equipment. This MWC is not related to safety, reliability, and/or maintenance.

MWC 20 – DCPP Capital Projects – Includes replacement of capital structures, systems and components that no longer can be maintained to safely and reliably operate and protect the plant. There are three major drivers to these replacements: (1) reliability has degraded to cause replacement to be needed; (2) obsolete replacement material, not allowing proper maintenance to continue; and (3) regulatory driven (NRC) requirements. This MWC relates to safety, reliability, or maintenance because the costs are associated with the replacement of capital structures, systems and components that no longer can be maintained to safely and reliably operate and protect the plant.

MWC 2F – Build Applications and Infrastructure – Includes the costs to design, develop and enhance applications, systems and infrastructure technology solutions. This MWC is not related to safety, reliability, and/or maintenance.

MWC 3I – Nuclear Safety and Security – Includes DCPP capital projects subject to the 2-way balancing account established for Nuclear Safety and Security regulatory-mandated projects. This MWC relates to safety, reliability, or maintenance because the costs are associated with Nuclear Safety and Security regulatory-mandated projects.

F. Power Generation Comparison Summary Tables

TABLE 4-5
POWER GENERATION 2020 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs ($000) (A)	2020 Actual Costs ($000) (B)	2020 Cost Difference ($000) (B-A)
1	Misc Expense	AB	6,303.3	5,204.6	(1,098.7)
2	Misc Expense	AB	55.4	0.0	
3	Manage Environmental Oper	AK	1,013.3	1,046.4	33.1
4	Manage Environmental Oper	AK	2,626.8	2,400.1	(226.7)
5	Maint Resv,Dams&Waterways	AX	23,691.3	28,425.8	4,734.6
6	Habitat and Species Protection	AY	136.7	112.3	(24.4)
7	Perf Reimburs Wk for Oth	BC	(0.7)	23.0	23.7
8	Manage Property & Bldgs	EP	986.1	1,400.2	414.1
9	Implement Environment Projects	ES	52.9	0.0	(52.9)
10	Manage Var Bal Acct Processes	IG	5,251.2	16,954.2	11,703.0
11	Maintain IT Apps & Infra	JV	480.1	398.5	(81.6)
12	Maintain IT Apps & Infra	JV	0.0	0.0	0.0
13	Operate Hydro Generation	KG	30,807.5	43,462.2	12,654.7
14	Maint Hydro Generating Equip	KH	21,395.1	23,121.1	1,726.0
15	Maint Hydro Bldg,Grnd,Infrast	KI	8,855.7	8,945.6	90.0
16	License Compliance Hydro Gen	KJ	36,622.3	21,963.6	(14,658.7)
17	Operate Fossil Generation	KK	12,834.4	13,662.0	827.6
18	Maint Fossil Generating Equip	KL	30,784.9	16,583.7	(14,201.2)
19	Maint Fossil Bldg,Grnd,Infrast	KM	2,930.5	2,237.8	(692.7)
20	Operate Alternative Gen	KQ	826.0	1,080.1	254.1
21	Maint AltGen Generating Equip	KR	3,321.6	1,607.7	(1,713.9)
22	Maint AltGen Bldg,Grnd,Infrast	KS	504.5	430.5	(74.0)
23	Operational Management	OM	3,298.0	2,794.5	(503.6)
24	Operational Management	OM	272.7	136.6	(136.0)
25	Operational Support	OS	6,205.5	2,836.1	(3,369.4)
26	Operational Support	OS	1,060.9	21.0	(1,039.9)
27	Corporate Items	ZC	0.0	2,007.6	2,007.6
28	**Total**		**200,315.8**	**196,855.2**	**(3,460.6)**

TABLE 4-6
POWER GENERATION 2020 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs ($000) (A)	2020 Actual Costs ($000) (B)	2020 Cost Difference ($000) (B-A)
1	IT - Desktop Computers	01	0.0	7.2	7.2
2	Office Furniture & Equipment	03	15.4	0.0	(15.4)
3	Tools & Equipment	05	1,036.0	2,050.4	1,014.3
4	Relicensing Hydro Gen	11	427.2	567.1	139.9
5	Implement Environment Projects	12	487.7	83.6	(404.1)
6	Build IT Apps & Infra	2F	7,450.8	681.9	(6,768.9)
7	Instl/Rpl for Hydro Safety&Reg	2L	23,485.2	29,569.5	6,084.3
8	Instal/Repl Hydro Gneratng Eqp	2M	105,015.3	94,880.0	(10,135.3)
9	Instal/Repl Resv,Dams&Waterway	2N	52,597.2	45,193.1	(7,404.0)
10	Instl/Repl Hydr BldgGrndInfrst	2P	5,138.3	8,015.4	2,877.1
11	Instl/Rpl for Fosil Safety&Reg	2R	0.0	454.5	454.5
12	Instal/Repl Fosil Gneratng Eqp	2S	6,215.6	12,480.2	6,264.6
13	Instl/Repl Fosl BldgGrndInfrst	2T	195.1	2,330.9	2,135.9
14	Instl/Rpl for AltGen Safty&Reg	3A	23.8	0.0	(23.8)
15	Instal/Repl AltGen GneratngEqp	3B	775.4	556.7	(218.8)
16	Hydroelec Lic & Lic Conditions	3H	18,918.1	17,708.5	(1,209.6)
17	**Total**		**221,781.0**	**214,579.0**	**(7,202.0)**

G. Power Generation Comparison by MWC Code for Safety, Reliability, and Maintenance Work Tables

TABLE 4-7
POWER GENERATION 2020 EXPENSE COMPARISON BY MWC FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs ($000) (A)	2020 Actual Costs ($000) (B)	2020 Cost Difference ($000) (B-A)	2020 Cost Percent Change (%) (B-A)/A	Spending Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation
1	AX	Maint Resv,Dams&Waterways	SRM Total	SRM Total	Exhibit (PG&E-5), p. 4-103	23,691.3	28,425.8	4,734.6	20.0%	NO	NO	Below variance threshold.
2	AX	Maint Resv,Dams&Waterways	Hydro System Safety	M1 - Internal Erosion Mitigation	Exhibit (PG&E-5), p. 2-17	0.0	1,129.9	1,129.9		N/A	N/A	N/A
3	AX	Maint Resv,Dams&Waterways	Hydro System Safety	M2 - Spillway Remediation	Exhibit (PG&E-5), p. 2-17	0.0	1,069.1	1,069.1		N/A	N/A	N/A
4	AX	Maint Resv,Dams&Waterways	Hydro System Safety	M4 - LLO Refurbishment	Exhibit (PG&E-5), p. 2-17	0.0	30.6	30.6		N/A	N/A	N/A
5	BC	Perf Reimburs Wk for Oth	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 4-103	(0.7)	23.0	23.7	-3332.0%	NO	NO	Below variance threshold.
6	IG	Manage Var Bal Acct Processes	SRM Total	SRM Total	Exhibit (PG&E-5), p. 4-103	5,251.2	16,954.2	11,703.0	222.9%	YES	YES	Program expenses were above imputed adopted values due to approval of the expansion of the two-way hydro licensing balancing account in the GRC 2020 decision (D.20-12-005) which now permits the FERC and DSOD fees to be recovered through the hydro licensing balancing account. The costs of FERC fees and DSOD fees, cumulatively exceeding $11M in 2020, have been moved from MWC KJ to MWC IG.
7	IG	Manage Var Bal Acct Processes	Hydro System Safety	M2 - Spillway Remediation	Exhibit (PG&E-5), p. 2-17	0.0	2,598.1	2,598.1		N/A	N/A	N/A
8	KG	Operate Hydro Generation	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 4-103	30,807.5	43,462.2	12,654.7	41.1%	YES	YES	Program expenses were above imputed adopted values due to several key drivers, including (1) emergent costs related to achieving full compliance for all risks at Level 3 per PG&E's Compliance Maturity Model; (2) an emergent hydro system-wide powerhouse safety mitigation program to mitigate safety risks resulting from dropped objects from heights (e.g. tools from scaffolding); (3) costs related to accelerating guidance document completion to meet Level 3 compliance deadline; and (4) emergent physical security and cybersecurity costs at our FERC-regulated facilities to meet new regulations from FERC.
9	KH	Maint Hydro Generating Equip	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 4-103	21,395.1	23,121.1	1,726.0	8.1%	NO	NO	Below variance threshold.
10	KI	Maint Hydro Bldg,Grnd,Infrast	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 4-103	8,855.7	8,945.6	90.0	1.0%	NO	NO	Below variance threshold.
11	KJ	License Compliance Hydro Gen	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 4-103	36,622.3	21,963.6	(14,658.7)	-40.0%	YES	YES	Program expenses were below imputed adopted values due to approval of the expansion of the two-way hydro licensing balancing account in the GRC 2020 decision (D.20-12-005) which now permits the FERC and DSOD fees to be recovered through the hydro licensing balancing account. The costs of FERC fees and DSOD fees, cumulatively exceeding $11M in 2020, have been removed from MWC KJ and assigned to MWC IG.
12	KK	Operate Fossil Generation	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-63	12,834.4	13,662.0	827.6	6.4%	NO	NO	Below variance threshold.
13	KL	Maint Fossil Generating Equip	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-63	30,784.9	16,583.7	(14,201.2)	-46.1%	YES	YES	Program expenses were below imputed adopted values due to the Long-Term Service Agreement costs, which are levelized in the imputed adopted value; however, the outage work associated with these costs only occurs on a periodic basis once every 4 to 5 years depending on operating profile and did not occur in 2020.
14	KM	Maint Fossil Bldg,Grnd,Infrast	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-63	2,930.5	2,237.8	(692.7)	-23.6%	NO	NO	Below variance threshold.
15	KQ	Operate Alternative Gen	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-63	826.0	1,080.1	254.1	30.8%	NO	NO	Below variance threshold.
16	KR	Maint AltGen Generating Equip	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-63	3,321.6	1,607.7	(1,713.9)	-51.6%	NO	NO	Below variance threshold.
17	KS	Maint AltGen Bldg,Grnd,Infrast	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-63	504.5	430.5	(74.0)	-14.7%	NO	NO	Below variance threshold.

TABLE 4-8
POWER GENERATION 2020 CAPITAL COMPARISON BY MWC FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs ($000) (A)	2020 Actual Costs ($000) (B)	2020 Cost Difference ($000) (B-A)	2020 Cost Percent Change (%) (B-A)/A	Spending Variance Explanation Required (Y/N)	Unit Variance Explanation Required (Y/N)	Cost Variance Explanation
1	2L	Instl/Rpl for Hydro Safety&Reg	SRM Total	SRM Total	Exhibit (PG&E-5), p. 4-104	23,485.2	29,569.5	6,084.3	25.9%	NO	NO	Below variance threshold.
2	2L	Instl/Rpl for Hydro Safety&Reg	Hydro System Safety	M1 - Internal Erosion Mitigation	Exhibit (PG&E-5), p. 2-16	2,926.4	3,162.9	236.4	8.1%	N/A	N/A	N/A
3	2L	Instl/Rpl for Hydro Safety&Reg	Hydro System Safety	M2 - Spillway Remediation	Exhibit (PG&E-5), p. 2-16	0.0	2,092.1	2,092.1		N/A	N/A	N/A
4	2L	Instl/Rpl for Hydro Safety&Reg	Hydro System Safety	M3 - Seismic Retrofit	Exhibit (PG&E-5), p. 2-16	3,901.9	15,796.9	11,895.0	304.9%	N/A	N/A	N/A
5	2L	Instl/Rpl for Hydro Safety&Reg	Hydro System Safety	M4 - LLO Refurbishment	Exhibit (PG&E-5), p. 2-16	975.5	561.4	(414.1)	-42.4%	N/A	N/A	N/A
6	2M	Instal/Repl Hydro Gneratng Eqp	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 4-104	105,015.3	94,880.0	(10,135.3)	-9.7%	NO	NO	Below variance threshold.
7	2N	Instal/Repl Resv,Dams&Waterway	SRM Total	SRM Total	Exhibit (PG&E-5), p. 4-104	52,597.2	45,193.1	(7,404.0)	-14.1%	NO	NO	Below variance threshold.
8	2N	Instal/Repl Resv,Dams&Waterway	Hydro System Safety	M1 - Internal Erosion Mitigation	Exhibit (PG&E-5), p. 2-16	975.5	643.3	(332.2)	-34.1%	N/A	N/A	N/A
9	2N	Instal/Repl Resv,Dams&Waterway	Hydro System Safety	M2 - Spillway Remediation	Exhibit (PG&E-5), p. 2-16	4,877.4	(18.0)	(4,895.4)	-100.4%	N/A	N/A	N/A
10	2N	Instal/Repl Resv,Dams&Waterway	Hydro System Safety	M4 - LLO Refurbishment	Exhibit (PG&E-5), p. 2-16	0.0	12,354.3	12,354.3		N/A	N/A	N/A
11	2P	Instl/Repl Hydr BldgGrndInfrst	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 4-104	5,138.3	8,015.4	2,877.1	56.0%	NO	NO	Below variance threshold.
12	2R	Instl/Rpl for Fosil Safety&Reg	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-65	0.0	454.5	454.5	100.0%	NO	NO	Below variance threshold.
13	2S	Instal/Repl Fosil Gneratng Eqp	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-65	6,215.6	12,480.2	6,264.6	100.8%	NO	NO	Below variance threshold.
14	2T	Instl/Repl Fosl BldgGrndInfrst	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-65	195.1	2,330.9	2,135.9	1094.8%	NO	NO	Below variance threshold.
15	3A	Instl/Rpl for AltGen Safty&Reg	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-65	23.8	0.0	(23.8)	-100.0%	NO	NO	Below variance threshold.
16	3B	Instal/Repl AltGen GneratngEqp	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-5), p. 5-65	775.4	556.7	(218.8)	-28.2%	NO	NO	Below variance threshold.
17	3H	Hydroelec Lic & Lic Conditions	SRM Total	SRM Total	Exhibit (PG&E-5), p. 4-104	18,918.1	17,708.5	(1,209.6)	-6.4%	NO	NO	Below variance threshold.
18	3H	Hydroelec Lic & Lic Conditions	Hydro System Safety	M2 - Spillway Remediation	Exhibit (PG&E-5), p. 2-16	0.0	2,186.2	2,186.2		N/A	N/A	N/A

H. Power Generation MWC Descriptions – Expense

MWC AB – Business/Miscellaneous Expense – Includes costs associated with efficiency savings, Land Conservation Commitment, Contracts and Consulting Services, and miscellaneous support costs. This MWC is not related to safety, reliability, and/or maintenance.

MWC AK – Manage Environmental Operations – Includes costs associated with managing environmental operations. This MWC is not related to safety, reliability, and/or maintenance.

MWC AX – Maintain Hydro Reservoirs, Dams & Waterways – Includes costs associated with maintenance of hydroelectric reservoirs, dams, and water conveyance systems. These maintenance activities also ensure safety through routine and preventive maintenance. This MWC relates to safety, reliability, or maintenance because the costs are associated with maintaining the hydro dams and water conveyance systems.

MWC AY – Habitat and Species Protection – Includes compliance with regulations to protect endangered species and sensitive habitats as part of PG&E's broader Environmental Stewardship Program. This MWC is not related to safety, reliability, and/or maintenance.

MWC BC – Perform Reimbursable Work for Others – Includes costs associated with managing the irrigation district contracts and the reimbursable expenses incurred to perform maintenance on behalf of the irrigation districts. Also includes reimbursable work for other third parties. This MWC relates to safety, reliability, or maintenance because the costs are associated with performing maintenance work for third parties.

MWC EP – Manage Property & Buildings – Includes costs associated with managing land rights and property leases in support of the operation of hydro power plants. This MWC is not related to safety, reliability, and/or maintenance.

MWC ES – Implement Environmental Projects – Includes costs associated with the implementing environmental projects and programs. This MWC is not related to safety, reliability, and/or maintenance.

MWC IG – Balancing Account – Regulatory Compliance Hydro Electric Generation – includes costs to maintain Federal Energy Regulatory Commission (FERC) license compliance to support hydroelectric generation activities for licenses received after January 1, 2014. This MWC also includes:

(1) regulatory fees; (2) costs associated with implementation of the Crane Valley Recreation Settlement Agreement; and (3) costs associated with work required because of the 2017 Oroville spillway incident. This MWC relates to safety, reliability, or maintenance because the costs are associated with regulatory compliance that often includes safety and/or reliability related expenditures.

MWC IG – Wildfire Mitigation Plan Memorandum Account (WMPMA) – Includes costs for which PG&E is seeking recovery through WMPMA. This MWC relates to safety, reliability, or maintenance because the costs are associated with clearing a defensible space around the generation facilities.

MWC JV – Maintain Applications and Infrastructure – Includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems and infrastructure. This MWC is not related to safety, reliability, and/or maintenance.

MWC KG – Operate Hydro Electric Generation – Includes costs to operate hydroelectric power generating stations and associated facilities. This MWC relates to safety, reliability, or maintenance because the costs are associated with operating the hydro facilities safely and reliably.

MWC KH – Maintain Hydro Electric Generating Equipment – Includes costs to maintain generating equipment or components to support hydroelectric generation activities. This MWC relates to safety, reliability, or maintenance because the costs are associated with maintaining generation equipment.

MWC KI – Maintain Hydro Electric Generation Buildings, Grounds & Infrastructure – Includes costs to maintain buildings, grounds and infrastructure to support hydroelectric generation activities, including roads and bridges. This MWC relates to safety, reliability, or maintenance because the costs are associated with maintaining buildings, grounds and infrastructure.

MWC KJ – Regulatory Compliance Hydro Electric Generation – Includes costs to maintain FERC license compliance to support hydroelectric generation activities for licenses received prior to January 1, 2014. This MWC relates to safety, reliability, or maintenance because the costs are associated with regulatory compliance that often includes safety and/or reliability related expenditures.

MWC KK – Operate Fossil Generation – Includes costs to operate fossil power generating stations. This MWC relates to safety, reliability, or

maintenance because the costs are associated with operating the fossil facilities safely and reliably.

MWC KL – Maintain Fossil Generating Equipment – Includes costs to maintain fossil power generating station equipment. This MWC relates to safety, reliability, or maintenance because the costs are associated with maintaining generation equipment.

MWC KM – Maintain Fossil Generation Buildings, Grounds & Infrastructure – Includes costs to maintain buildings, grounds and infrastructure on the plant site to support fossil generation activities, including buildings and facilities, roadways, landscaping, retaining walls, fencing, and yard lighting systems. This MWC relates to safety, reliability, or maintenance because the costs are associated with maintaining buildings, grounds and infrastructure.

MWC KQ – Operate Alternative Generation – Includes costs to operate alternative generation sites. This MWC relates to safety, reliability, or maintenance because the costs are associated with safely and reliably operating the other generation facilities.

MWC KR – Maintain Alternative Generation Generating Equipment – Includes costs to maintain alternative power generating station equipment. This MWC relates to safety, reliability, or maintenance because the costs are associated with maintaining generation equipment.

MWC KS – Maintain Alternative Generation Building, Ground, Infrastructure – Includes costs to maintain photovoltaic and fuel cell generation common facilities. This MWC relates to safety, reliability, or maintenance because the costs are associated with maintaining buildings, grounds and infrastructure.

MWC OM – Operational Management – Includes labor and employee related costs to provide supervision and management support. MWC OM also includes costs incurred by the administrative staff working for the supervisors/managers. This MWC is not related to safety, reliability, and/or maintenance.

MWC OS – Operational Support – Includes labor and employee related costs to provide services and support that are unrelated to supervision and management. Examples include Business Finance and Sourcing that support the LOBs. This MWC is not related to safety, reliability, and/or maintenance.

MWC ZC – Corporate Items – Includes enterprise-level expenses and revenues that are planned and managed separately from Business Unit budgets. Examples include environmental liabilities, insurance, workers' compensation. This MWC is not related to safety, reliability, and/or maintenance.

I. Power Generation MWC Descriptions – Capital

MWC 01 – IT Computing Equipment – Includes capital costs to replace computing equipment. This MWC is not related to safety, reliability, and/or maintenance.

MWC 03 – Office Furniture & Equipment – Includes capital costs to replace office furniture and equipment. This MWC is not related to safety, reliability, and/or maintenance.

MWC 05 – Tools & Equipment – Includes purchase of tools and equipment required to perform various functions to maintain the safety and reliability of fossil and hydro electric generation operations. This MWC is not related to safety, reliability, and/or maintenance.

MWC 11 – Relicensing and License Compliance Hydro Electric Generation – Includes costs for complying with the conditions required by FERC licenses received prior to January 1, 2014, and other compliance work generally related to facility safety. This MWC is not related to safety, reliability, and/or maintenance.

MWC 12 – Implement Environmental Projects – Includes costs for capital projects to comply with water and air quality regulations and various oil spill prevention projects. This MWC is not related to safety, reliability, and/or maintenance.

MWC 2F – Build Applications and Infrastructure – Includes the costs to design, develop and enhance applications, systems and infrastructure technology solutions. This MWC is not related to safety, reliability, and/or maintenance.

MWC 2L – Install/Replace for Hydro Electric Generation Safety & Regulatory Requirements – Includes capital costs primarily related to employee or public safety and regulatory requirements that are not connected with relicensing for hydroelectric generation. This MWC relates to safety, reliability, or maintenance because the costs are associated with hydro safety.

MWC 2M – Install/Replace Hydro Electric Generating Equipment – Includes capital costs to install/replace generating equipment or components to support hydroelectric generation activities. This MWC relates to safety, reliability, or maintenance because the costs are associated with installing/replacing generating equipment that is consistent with keeping the generation facilities reliable.

MWC 2N – Install/Replace Reservoirs, Dams & Waterways – Includes capital costs to support the operation of reservoirs, dams and waterways. This MWC relates to safety, reliability, or maintenance because the costs are associated with installing/replacing equipment related to dams and water conveyance systems for safe and reliable operations.

MWC 2P – Install/Replace Hydro Electric Generation Buildings, Grounds & Infrastructure – Includes capital costs to install/replace buildings, grounds and infrastructure to support hydroelectric generation activities, including roads and bridges. This MWC relates to safety, reliability, or maintenance because the costs are associated with installing/replacing hydro buildings, grounds, and infrastructure to operate the generation facilities in a safe and reliable manner.

MWC 2R – Install/Replace Fossil Generating Safety & Regulatory Requirements – Includes capital costs primarily related to employee safety or regulatory requirements for fossil generation. This MWC relates to safety, reliability, or maintenance because the costs are associated with fossil safety.

MWC 2S – Install/Replace Fossil Generating Equipment – Includes capital costs to install new or replace existing generating equipment or components to support fossil generation activities. This MWC relates to safety, reliability, or maintenance because the costs are associated with installing/replacing generating equipment that is consistent with keeping the generation facilities reliable.

MWC 2T – Install/Replace Fossil Generation Buildings, Grounds & Infrastructure – Includes capital costs to install or replace new buildings, grounds and infrastructure on the plant site to support fossil generation activities. This MWC relates to safety, reliability, or maintenance because the costs are associated with installing/replacing fossil buildings, grounds, and infrastructure to operate the generation facilities in a safe and reliable manner.

MWC 3A – Install/Replace Alternative Fossil Generation Safety and Regulation – Includes capital costs associated with the installation and/or replacement of safety equipment for alternative generation. This MWC relates to safety, reliability, or maintenance because the costs are associated with alternative generation safety.

MWC 3B – Install/Replace Alternative Generation Equipment – Includes capital costs associated with the installation of solar photovoltaic generation equipment. This MWC relates to safety, reliability, or maintenance because the costs are associated with installing/replacing generating equipment that is consistent with keeping the generation facilities reliable.

MWC 3H – Balancing Account – Relicensing Hydro Electric Generation – Includes costs for relicensing existing FERC licenses; obtaining major license amendments; surrendering licenses for facilities that are no longer economic; complying with the conditions required by existing and newly issued FERC licenses and major license amendments; and anticipated to be required by pending new FERC licenses for licenses. This includes costs for all pending licenses as of January 1, 2014, and new licenses applied for after January 1, 2014. This MWC also includes the costs associated with work required because of the 2017 Oroville spillway incident. This MWC relates to safety, reliability, and/or maintenance because some costs are associated with spillway work that will be required because of the Oroville spillway incident.

PACIFIC GAS AND ELECTRIC COMPANY

SECTION 5

CUSTOMER CARE

IMPUTED ADOPTED VS.

RECORDED COMPARISON

PACIFIC GAS AND ELECTRIC COMPANY
SECTION 5
CUSTOMER CARE
IMPUTED ADOPTED VS.
RECORDED COMPARISON

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PACIFIC GAS AND ELECTRIC COMPANY
SECTION 5
CUSTOMER CARE
IMPUTED ADOPTED VS.
RECORDED COMPARISON

A. Introduction

This section includes the following information for the Customer Care line of business: a comparison of the total 2020 imputed adopted spend vs. the actual spend and for those programs that are related to safety, reliability, or maintenance the Major Work Category (MWC) descriptions, imputed adopted vs. actuals comparison details and variance explanations. The MWC descriptions are based on Pacific Gas and Electric Company's (PG&E) 2019 Spending Accountability Report. In addition, per Decision (D.) 19-04-020 the MWC descriptions include how each program/project relates to safety, reliability, or maintenance.

B. Comparison Summary Tables

TABLE 5-1
CUSTOMER CARE 2020 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)
1	Misc Expense	AB	0.0	(0.2)	(0.2)
2	Read & Investigate Meters	AR	10,742.0	(361.9)	(11,103.9)
3	Provide Field Service	DD	686.8	0.0	(686.8)
4	Manage Customer Inquiries	DK	60,492.7	61,242.2	749.5
5	Develop New Revenue	EL	24,620.7	41,003.1	16,382.3
6	Change/Maint Used Elec Meter	EY	8,799.8	795.6	(8,004.2)
7	Manage Var Cust Care Processes	EZ	39,425.1	36,398.8	(3,026.2)
8	Retain & Grow Customers	FK	877.9	356.0	(522.0)
9	Manage Energy Efficiency-NonBA	GM	8,633.3	7,468.1	(1,165.3)
10	Change/Maint Used Gas Meters	HY	6,637.2	7,255.0	617.7
11	Manage Var Bal Acct Processes	IG	0.0	18,421.8	18,421.8
12	Bill Customers	IS	54,901.8	47,361.0	(7,540.8)
13	Manage Credit	IT	15,238.2	8,255.3	(6,982.9)
14	Collect Revenue	IU	21,086.0	14,549.8	(6,536.2)
15	Provide Account Services	IV	17,160.7	15,573.5	(1,587.2)
16	Maintain IT Apps & Infra	JV	3,746.4	11,852.0	8,105.6
17	Operational Management	OM	4,132.3	2,798.3	(1,334.0)
18	Operational Support	OS	307.8	(489.4)	(797.3)
19	**Total**		**277,488.9**	**272,479.0**	**(5,010.0)**

TABLE 5-2
CUSTOMER CARE 2020 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)
1	Tools & Equipment	05	244.0	105.5	(138.5)
2	Misc Capital	21	3,512.0	1,320.8	(2,191.2)
3	Install New Electric Meters	25	54,568.6	31,482.9	(23,085.7)
4	EV - Station Infrastructure	28	0.0	2,927.5	2,927.5
5	Build IT Apps & Infra	2F	6,725.7	14,850.1	8,124.5
6	Install New Gas Meters	74	73,647.2	84,617.9	10,970.7
7	**Total**		**138,697.5**	**135,304.8**	**(3,392.7)**

C. Comparison by MWC for Safety, Reliability, and Maintenance Work

TABLE 5-3
CUSTOMER CARE 2020 EXPENSE COMPARISON BY MWC FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Cost Variance Explanation
1	AR	Read & Investigate Meters	SRM Total (Non-Ramp)		Exhibit (PG&E-6), Chapter 6	9,984.2	0.0	(9,984.2)	-100.0%	NO	YES	Program expenses/expenditures were below imputed adopted costs due to the transfer of Field Meter Operations (FMO) to Electric Operations (EO) and Gas Operations (GO) in 2018.
2	DD	Provide Field Service			Exhibit (PG&E-6), Chapter 6	686.8	0.0	(686.8)	-100.0%	NO	NO	Below threshold variance.
3	DK	Manage Customer Inquiries			Exhibit (PG&E-6), Chapter 4	57,677.0	58,992.0	1,315.0	2.3%	NO	NO	Below threshold variance.
4	EY	Change/Maint Used Elec Meter			Exhibit (PG&E-6), Chapter 6	8,799.8	795.6	(8,004.2)	-91.0%	NO	YES	Program expenses/expenditures were below imputed adopted costs due to the transfer of Field Meter Operations (FMO) to Electric Operations (EO) and Gas Operations (GO) in 2018.
5	EZ	Manage Var Cust Care Processes			Exhibit (PG&E-6), Chapter 6	220.0	1,540.0	1,320.0	600.0%	NO	NO	Below threshold variance.
6	GM	Manage Energy Efficiency-NonBA			Exhibit (PG&E-6), Chapter 3	7,934.8	5,898.0	(2,036.8)	-25.7%	NO	NO	Below threshold variance.
7	HY	Change/Maint Used Gas Meters			Exhibit (PG&E-6), Chapter 6	6,637.2	7,255.0	617.7	9.3%	NO	NO	Below threshold variance.
8	IG	Manage Var Bal Acct Processes			N/A--FRMMA	0*	18,421.8	18,421.8	N/A	YES	YES	Program expenditures were for the new Portable Battery Program which provides no-cost backup portable batteries for eligible income-qualified customers who live in high fire-threat districts and are enrolled in the Medical Baseline program.
9	IU	Collect Revenue			Exhibit (PG&E-6), Chapters 6	1,306.9	0.0	(1,306.9)	-100.0%	NO	NO	Below threshold variance.

*PG&E did not forecast this work in the 2020 GRC.

TABLE 5-4
CUSTOMER CARE 2020 CAPITAL COMPARISON BY MWC FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Cost Variance Explanation
1	05	Tools & Equipment	SRM Total (Non-Ramp)		Exhibit (PG&E-6), Chapter 6	244.0	105.5	(138.5)	-56.8%	NO	NO	Below threshold variance.
2	21	Misc Equipment			Exhibit (PG&E-6), Chapter 6	3,012.0	151.0	(2,861.0)	-95.0%	NO	NO	Below threshold variance.
3	25	Install New Electric Meters			Exhibit (PG&E-6), Chapter 6	54,568.6	31,482.9	(23,085.7)	-42.3%	YES	YES	Program expenses/expenditures were below imputed adopted costs due to the transfer of Field Meter Operations (FMO) to Electric Operations (EO) and Gas Operations (GO) in 2018.
4	74	Install New Gas Meters			Exhibit (PG&E-6), Chapter 6	73,647.2	84,617.9	10,970.7	14.9%	NO	NO	Below threshold variance.

D. MWC Descriptions – Expense

MWC AB – Miscellaneous Expense – Includes costs associated with work considered administrative and general in nature (i.e., benefiting the entire corporation and not just one functional area). This program does not relate to safety, reliability, or maintenance.

MWC AR – Read & Investigate Meters – Includes activities for dedicated meter readers, other field resources performing manual meter reading activities, and the systems, administration and clerical support necessary to effectively perform these activities. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure.

MWC DD – Provide Field Services – Includes customer generated requests for service that require site visit by field technician, such as investigating reports of possible gas leaks, carbon monoxide monitoring, customer requests for stop/starts of gas service, appliance pilot relights, and appliance adjustment and safety checks. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure.

MWC DK – Manage Customer Inquiries – Includes expenses incurred in operating the Company's four Contact Centers (CC), which handle approximately 20 million calls per year, with approximately 7 million of these handled by a customer service representative, costs associated with PG&E's Customer Relations department, and expenses to address customer inquiries at the local offices, and various non-cash receiving front counter activities. This program relates to safety, reliability, or maintenance in PG&E's CCs because the CCs support customer calls on safety and reliability issues.

MWC EL – Develop New Revenue – Covers work in support of the New Revenue Development team on streetlight light emitting diode turnkey work, wireless telecommunications and fiber optics attachments on PG&E assets, and various other services based on secondary use of PG&E assets. This program does not relate to safety, reliability, or maintenance.

MWC EY – Change/Maint Used Electric Meter – Includes activities such as electric meter preventive maintenance, electric meter corrective maintenance, meter programming, meter network maintenance, electric meter accuracy

testing, and the associated staff support necessary to effectively perform these activities. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure.

MWC EZ – Manage Var Cust Care Processes – Covers customer satisfaction surveys, customer service, customer experience, program implementation and outreach, rate education and outreach, rate tools, correspondence management and literature fulfillment, customer facing check and letter generation and delivery, and tariff, risk, compliance, and privacy support. Also includes activities primarily associated with SmartMeter™ Opt-Out Program oversight and supplemental utility meter engineering support. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure.

MWC FK – Retain and Grow Customers – Covers responding to economic development inquiries, providing detailed analyses of service options desired by customers, and providing detailed explanations of special rate components. MWC FK also includes "below the line" activities related to public power and Community Choice Aggregation issues. Below-the-line costs are not included in this report. This program does not relate to safety, reliability, or maintenance.

MWC GM – Manage Energy Efficiency-NonBA – Covers required safety and compliance work associated with Low Income Energy Efficiency direct installation measures, including Natural Gas Appliance Testing. This MWC also covers support required for Cooling Centers and guiding and adhering to policy related to electric vehicles (EV), introducing new services that benefit EV customers, and for minimal market readiness activities for EVs. This program relates to safety, reliability, or maintenance because it involves in-home appliance safety checks and support for Cooling Centers to support customer safety during hot summer days.

MWC HY – Change/Maint Used Gas Meters – Covers gas meter maintenance activities that do not result in new meter exchanges, including meter tests, minimal regulator maintenance, meter/module communication trouble-shooting, and meter/module repairs. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure.

MWC IG – Manage Var Bal Acct Processes – This program relates to safety, reliability, or maintenance because it includes expenses for the new Portable Battery Program which provides no-cost backup portable batteries for eligible income-qualified customers who live in high fire-threat districts and are enrolled in the Medical Baseline program.

MWC IS – Bill Customers – Includes expenses incurred to print, insert, and mail over 52 million customer bills annually; provide electronic bills to customers, bill complex commercial and industrial accounts, including the growing number of Net Energy Metering accounts; calculate and remit franchise fees and taxes; perform user acceptance testing of the customer billing system to ensure billing accuracy; and verify and/or resolve billing issues. Also covers work in support of streetlight inventory and discontinuing service/investigations situations of metered commodity usage with no customer service agreement (e.g., broken lock). This program does not relate to safety, reliability, or maintenance.

MWC IT – Manage Credit – Covers expenses incurred to perform credit risk management for retail customers; delinquent account follow-ups and post account closure collections; open account collections on high dollar accounts; balance transfers for closed accounts, fraud verification; and costs related to notifying customers of past due amounts, as well as discontinuing and reconnecting service for non-payment. MWC IT also includes external collection agency costs. This program does not relate to safety, reliability, or maintenance.

MWC IU – Collect Revenue – Covers expenses incurred to process energy payments received through the United States mail and in local offices, as well as vendor transaction fees for online energy payments. MWC IU also includes expenses to manage customer payment inquiries and cash refunds. This program relates to safety, reliability, or maintenance because it also supports activities focused on the detection, investigation, and resolution of customer energy theft.

MWC IV – Provide Account Services – Covers the costs of labor, materials, and other expenses incurred in responding to customer inquiries, primarily for non-residential customers, regarding contracts, credit, billing and accounting, collections and complaints; providing outage information; providing retail interconnection information; and responding to customer needs of Energy

Service Providers and Core Transport Agents. This program does not relate to safety, reliability, or maintenance.

MWC JV – Maintain Information Technology (IT) Apps & Infra – Includes costs for ongoing maintenance, operations, and repair for PG&E's IT applications, systems, and infrastructure.

This program does not relate to safety, reliability, or maintenance.

MWC OM – Operational Management – Includes labor and employee related costs to provide supervision and management support. MWC OM also includes costs incurred by the administrative staff working for the supervisors and managers. This program does not relate to safety, reliability, or maintenance.

MWC OS – Operational Support – Includes labor and employee related costs to provide services and support that are unrelated to supervision and management. This program does not relate to safety, reliability, or maintenance.

E. MWC Descriptions – Capital

MWC 05 – Tools and Equipment – Includes tools and equipment used by field technicians and meter repair facilities to perform field metering and meter repair activities. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure.

MWC 21 – Miscellaneous Capital – Includes various capital equipment. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure.

MWC 25 – Install New Electric Meters – Includes new electric meter purchases for new customer growth, replacement of failed units, and the associated installation labor necessary to perform electric meter installations, exchanges, removals, and retirements. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure.

MWC 28 – EV – Station Infrastructure – Includes the cost of electric vehicle charging infrastructure for PG&E-owned vehicles. This program does not relate to safety, reliability, or maintenance.

MWC 2F – Build IT Apps & Infra – Includes the costs to design, develop, and enhance applications, systems, and IT solutions.

This program does not relate to safety, reliability, or maintenance.

MWC 74 – Install New Gas Meters – Includes new gas meter and module purchases for new customer growth, replacement of failed units, and the associated installation labor necessary to perform gas meter and module installations, exchanges, removals and retirements. This program relates to safety, reliability, or maintenance because it supports the proper functioning of PG&E's metering infrastructure.

PACIFIC GAS AND ELECTRIC COMPANY

SECTION 6

SHARED SERVICES/INFORMATION TECHNOLOGY IMPUTED

ADOPTED VS. RECORDED COMPARISON

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SECTION 6
SHARED SERVICES/INFORMATION TECHNOLOGY IMPUTED ADOPTED VS. RECORDED COMPARISON

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SECTION 6
SHARED SERVICES/INFORMATION TECHNOLOGY IMPUTED ADOPTED VS. RECORDED COMPARISON

A. Introduction

This section includes the following information for the Shared Services/ Information Technology (IT) lines of business: a comparison of the total 2020 imputed adopted spend vs. the actual spend and for those programs that are related to safety, reliability, or maintenance the Major Work Category (MWC) descriptions, imputed adopted vs. actuals comparison details and variance explanations. The MWC descriptions are based on Pacific Gas and Electric Company's (PG&E or the Company) 2019 Spending Accountability Report. In addition, per Decision 19-04-020 the MWC descriptions include how each program/project relates to safety, reliability, or maintenance.

B. Comparison Summary Tables

TABLE 6-1
SHARED SERVICES/IT 2020 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)
1	Misc Expense	AB	205,345.0	240,440.3	35,095.4
2	Manage Environmental Oper	AK	8,287.0	8,496.4	209.5
3	Habitat and Species Protection	AY	147.5	127.6	(19.9)
4	Maint Buildings	BI	4,004.3	767.4	(3,237.0)
5	Manage DCPP Business	BP	5,358.9	2,498.9	(2,859.9)
6	Mnge Waste Disp & Transp	CR	2,204.9	2,124.2	(80.7)
7	Manage Property & Bldgs	EP	106,997.0	112,802.7	5,805.7
8	Implement Environment Projects	ES	699.0	796.6	97.5
9	Spc A&G/Oth Csts-Bud Dept	FA	0.0	166.3	166.3
10	Safety Engineering & OSHA Cmpl	FL	17,427.0	12,661.8	(4,765.2)
11	Manage Land Services	JE	3,460.0	3,053.1	(406.9)
12	Implement RealEstate Strategy	JH	8,182.9	8,152.5	(30.3)
13	Manage Environ Remed (Earning)	JK	1,974.0	5,868.3	3,894.3
14	Procure Materials & Services	JL	16,572.8	10,222.7	(6,350.1)
15	Manage Var Bal Acct Processes	IG	0.0	3,084.8	3,084.8
16	Maintain IT Apps & Infra	JV	4,326.1	3,333.9	(992.2)
17	Prov Human Resource Svcs	KX	5,806.4	8,607.1	2,800.7
18	Prov Regulation Svcs	KY	1,465.2	1,197.5	(267.7)
19	Prov Risk/Security Svcs	KZ	15,054.7	15,851.8	797.1
20	Corp A&G Allocation - ATL	LO	0.0	202.0	202.0
21	Operational Management	OM	200.7	210.2	9.5
22	Operational Support	OS	7,115.4	7,588.1	472.7
23	Corporate Items	ZC	0.0	0.0	0.0
24	**Shared Services Sub-Total**		**414,628.8**	**448,254.5**	**33,625.7**
25	Fleet Capitalization	AB	(90,714.7)	(156,577.5)	(65,862.8)
26	Building Services Capitalization	EP	(65,890.2)	(63,557.2)	2,333.0
27	**Shared Services Total**		**258,023.9**	**228,119.8**	**(29,904.1)**
28	Misc Expense	AB	0.0	107.5	107.5
29	Manage Var Bal Acct Processes	IG	0.0	0.0	0.0
30	Maintain IT Apps & Infra	JV	318,988.4	336,919.4	17,931.0
31	Prov Risk/Security Svcs	KZ	0.0	0.0	0.0
32	Charges from Affiliates	LL	0.0	0.0	0.0
33	Corp A&G Allocation - ATL	LO	0.0	169.6	169.6
34	Operational Management	OM	1,989.7	1,313.5	(676.2)
35	Operational Support	OS	612.0	6,549.4	5,937.4
36	**Information Technology Sub-Total**		**321,590.0**	**345,059.3**	**23,469.3**
37	End User Services Capitalization	AB	(34,884.5)	(36,448.3)	(1,563.8)
38	**Information Technology Total**		**286,705.6**	**308,611.0**	**21,905.4**
39	**Shared Services/Information Technology Total**		**544,729.5**	**536,730.8**	**(7,998.7)**

TABLE 6-2
SHARED SERVICES/IT 2020 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF DOLLARS)

Line No.	MWC Description	MWC	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)
1	Fleet / Auto Equip	04	27,450.8	110,006.5	82,555.7
2	Tools & Equipment	05	1,817.1	1,997.7	180.6
3	Implement Environment Projects	12	5,979.0	12,695.9	6,716.9
4	Misc Capital	21	562.3	2,817.8	2,255.5
5	Maintain Buildings	22	78,096.8	8,593.7	(69,503.1)
6	Implement RealEstate Strategy	23	92,091.2	196,030.5	103,939.3
7	EV - Station Infrastructure	28	3,449.6	0.0	(3,449.6)
8	Manage Buildings	78	0.0	7.9	7.9
9	Security Install/Replace	3N	16,640.4	7,877.1	(8,763.3)
10	Build IT Apps & Infra	2F	2,497.2	3,595.8	1,098.6
11	**Shared Services Total**		**228,584.4**	**343,622.8**	**115,038.4**
12	Build IT Apps & Infra	2F	206,412.4	241,979.5	35,567.1
13	Security Install/Replace	3N	0.0	0.0	0.0
14	**Information Technology Total**		**206,412.4**	**241,979.5**	**35,567.1**
15	**Shared Services/Information Technology Total**		**434,996.8**	**585,602.3**	**150,605.5**

C. Comparison by MWC for Safety, Reliability, and Maintenance Work Tables

TABLE 6-3
CORPORATE REAL ESTATE 2020 EXPENSE COMPARISON BY MWC FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Cost Variance Explanation
1	BI	Maint Buildings	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-7), Chapter 5	4,004.3	767.4	(3,237.0)	-80.8%	NO	NO	Below variance threshold.
2	JH	Implement RealEstate Strategy	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-7), Chapter 5	8,182.9	8,152.5	(30.3)	-0.4%	NO	NO	Below variance threshold.

TABLE 6-4
CORPORATE REAL ESTATE 2020 CAPITAL COMPARISON BY MWC FOR SAFETY, RELIABILITY, AND MAINTENANCE WORK
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	RAMP Risk Name	RAMP Mitigation Name	2020 GRC Testimony Reference	2020 Imputed Adopted Costs (A)	2020 Actual Costs (B)	2020 Cost Difference (B-A)	2020 Cost Percent Change (%) (B-A)/A	Spending Variance Explanation Required (Y/N)	Percentage Variance Explanation Required (Y/N)	Cost Variance Explanation
1	22	Maintain Buildings	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-7), Chapter 5	78,096.8	8,593.7	(69,503.1)	-89.0%	YES	YES	Decrease due to the consolidation of the Facility Asset Upkeep Program into MWC 23.
2	23	Implement RealEstate Strategy	SRM Total (Non-RAMP)	SRM Total (Non-RAMP)	Exhibit (PG&E-7), Chapter 5	92,091.2	196,030.5	103,939.3	112.9%	YES	YES	Increase due to work completed under the Emergency Generation Enhancement Project which is in support of Wildfire mitigation. The intent of this three-year project is to equip select service center locations with emergency generation systems that have the capability to provide back-up to the entire site, generator tap boxes and transfer switches that can support portable generators. In 2020, sites were evaluated and prioritized using HFTD based criteria and designs, including building permits, were completed for select sites. This initiative is slated for completion in 2022.

D. MWC Descriptions – Expense

MWC AB – Support – Includes costs associated with climate protection and other environmental leadership initiatives. MWC AB also includes standard cost variances for Shared Services departments that charge out their costs to other organizations and miscellaneous support costs. In addition, this MWC addresses costs related to PG&E's heavy-lift helicopters that provide both service restoration and California Department of Forestry and Fire Protection (CAL FIRE) use for emergency response during fire season. This program does relate to safety, reliability, and maintenance as it supports wildfire mitigations by improving wildfire response capabilities and potentially reducing wildfire consequences to PG&E and public infrastructure.

MWC AK – Manage Environmental Operations – Includes costs for environmental compliance support, permits and day-to-day costs that are part of facility environmental operations. MWC AK also includes routine environmental work, including the labor costs of environmental professionals and facility personnel who perform environmental compliance tasks (e.g., inspections, compliance assessments, corrective actions, and hazardous waste management). This program does not relate to safety, reliability, or maintenance.

MWC AY – Habitat and Species Protection – Includes compliance with regulations to protect endangered species and sensitive habitats as part of PG&E's broader Environmental Stewardship Program. The Environmental Stewardship Program covers initiatives to support habitat and species protection, Safe Harbor Agreement, avian protection, land stewardship and conservation partnerships. MWC AY includes labor and expense associated with administration of the different programs. This program does not relate to safety, reliability, or maintenance.

MWC BI – Maintain Buildings – Includes costs to repair and maintain base building to extend the life of building components, correct building component deficiencies, improve equipment operating efficiencies, and increase the operating reliability of buildings and yards. This program relates to safety, reliability, or maintenance because the facilities are required to support PG&E's safe and reliable delivery of energy and the funding is for maintenance of the buildings and related seismic safety.

MWC BP – Manage DCPP Business – Includes costs of aircraft services that have been moved from the Nuclear Generation line of business. This program relates to safety, reliability, or maintenance because heavy-lift helicopters, fixed wing aircraft and unmanned aerial vehicles (UAV) or drones are all used in support of wildfire mitigation strategies.

MWC CR – Manage Waste Disposal & Transportation – Includes costs of transportation and disposal of hazardous and other regulated wastes in accordance with federal and state laws and regulations. This program does not relate to safety, reliability, or maintenance.

MWC EP – Manage Property and Buildings – Includes costs to operate, maintain, and repair PG&E's facilities and shared conference center space. This program does not relate to safety, reliability, or maintenance.

MWC ES – Implement Environment Projects – Includes costs associated with repairing, replacing, or upgrading equipment to comply with environmental regulations. This program does not relate to safety, reliability, or maintenance.

MWC FA/FL – Safety Engineering & OSHA Compliance – Includes costs of the Safety Engineering & Health Services department which provides overall direction and implementation of the Company's occupational safety and health programs. MWC FL also includes costs for the development and integration of safety and health solutions supporting the goal of eliminating employee injuries. This program is for employee safety.

MWC IG – Manage Various Balancing Account Processes - Includes expense costs for various balancing and memorandum accounts:

- Fire Risk Mitigation Memorandum Account – Includes costs incurred for wildfire risk mitigation which were not included in PG&E's 2020 Wildfire Mitigation Plan (WMP) and not associated with wildfire mitigations described in PG&E's 2020 General Rate Case (GRC) that are recorded in the Wildfire Mitigation Balancing Account (WMBA). PG&E will determine the incrementality of these amounts to the Company's revenue requirement when it applies for cost recovery.
- Wildfire Mitigation Plan Memorandum Account – Includes costs incurred to implement PG&E's approved WMP that are not associated with wildfire mitigations described in PG&E's 2020 GRC that are recorded in the WMBA.

PG&E will determine the incrementality of these amounts to the Company's revenue requirement when it applies for cost recovery.

This program relates to safety, reliability, or maintenance because the memorandum and balancing accounts track work to address wildfire risk. In Shared Services, specific investments include Enterprise Health and Safety's purchase of employee personal protective equipment for the protection from wildfire smoke inhalation; Corporate Real Estate Strategy and Services' ongoing efforts on the Emergency Generation Enhancement Project; and Land and Environmental Management's work with U.S. Forest Service (USFS) to perform hazardous fuel reduction work on USFS lands with a focus on areas near PG&E distribution facilities.

MWC JE – Manage Land Services – Includes costs to establish policies and provide support for the management and protection of the Company's land and land rights in support of PG&E's utility operations. MWC JE also includes costs to manage the Company's timberlands to achieve optimal revenues while maintaining and/or enhancing timberland values. This program does not relate to safety, reliability, or maintenance.

MWC JH – Real Estate Strategy and Transactions – Includes costs for long-term real estate strategy development, space demand forecasting and planning and lease administration and transaction management. This program relates to safety, reliability, or maintenance because it supports seismic safety as it relates to Customer Service Office (CSO) relocations.

MWC JK – Manage Environmental Remediation-Earnings – Includes costs for the clean-up of contaminated sites which are not recovered through the Hazardous Substance Mechanism, decommissioning accounts, or at shareholder expense. These include internal labor and expenses associated with management and support of the site remediation as well as contractor and legal fees. This program does not relate to safety, reliability, or maintenance.

MWC JL – Procure Materials & Services – Includes costs to procure goods and services, including implementing programs to improve organizational effectiveness, developing supplier alliances, and maintaining and promoting a diverse supplier base. This program does not relate to safety, reliability, or maintenance.

MWC JV – Maintain Applications and Infrastructure – Includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems, and infrastructure. In addition, cybersecurity ongoing maintenance and operations as well as project costs are addressed. This program does relate to safety, reliability, or maintenance because it contains both controls and mitigations for the Cyber Attack Risk Assessment and Mitigation Phase (RAMP) risk.

MWC KX – Provide Human Resource Services – Represents costs for the Integrated Disability Management program and support as well as services provided by Human Resources. This program does not relate to safety, reliability, or maintenance.

MWC KY – Provide Regulations Services – Includes costs for regulatory services and support. This program does not relate to safety, reliability, or maintenance.

MWC KZ – Provide Risk and Security Services – Includes support for corporate security, risk management, internal audit, and insurance functions. In Shared Services, this work is Corporate Security expense costs. Corporate Security includes guard services, investigations and investigators, executive protection, access control, physical security testing, video monitoring security facilities, and maintenance of security equipment. This program does relate to safety, reliability, or maintenance because it contains mitigations for the Insider Threat RAMP risk.

MWC OM – Operational Management –Includes labor and employee related costs to provide supervision and management support. MWC OM also includes costs incurred by the administrative staff working for the supervisors/managers. This program does not relate to safety, reliability, or maintenance.

MWC OS – Operational Support –Includes labor and employee related costs to provide services and support that are unrelated to supervision and management. Examples include Business Finance and Sourcing that support the lines of business. This program does not relate to safety, reliability, or maintenance.

E. MWC Descriptions – Capital

MWC 04 – Fleet/Automotive Equipment – Includes acquisition of vehicles, power-operated and off-road equipment, and trailers needed to respond to customer service requests and the myriad of maintenance and construction needs of the Company. This program does not relate to safety, reliability, or maintenance.

MWC 05 – Tools & Equipment – Includes purchase of tools and equipment required to perform various functions, including fleet repairs, warehouse operations, etc. This program does not relate to safety, reliability, or maintenance.

MWC 12 – Implement Environment Projects – Includes costs associated with repairing, replacing, or upgrading equipment and facilities to comply with environmental regulations. This program does not relate to safety, reliability, or maintenance.

MWC 21 – Purchase/Install – Other Capital – Includes costs related to the miscellaneous purchase of capital and/or the disposition and sale of PG&E's surplus, obsolete or damaged assets. In addition, this MWC addresses costs related to PG&E's heavy-lift helicopters that provide both service restoration and California Department of Forestry and Fire Protection (CAL FIRE) use for emergency response during fire season. This program does relate to safety, reliability, and maintenance as it supports wildfire mitigations by improving wildfire response capabilities and potentially reducing wildfire consequences to PG&E and public infrastructure.

MWC 22 – Maintain Buildings – Includes the costs to replace and construct base buildings, to extend the life of building components, correct building component deficiencies, improve equipment operating efficiencies, replace failed or functionally obsolete building components, and increase the operating reliability of buildings and yards. This includes furniture, office equipment, and IT Infrastructure for buildings. This program relates to safety, reliability, or maintenance because the facilities are required to support PG&E's safe and reliable delivery of energy and the funding is for maintenance of the buildings and related seismic safety.

MWC 23 – Implement Real Estate Strategy – Includes the costs for new buildings and yards, including the purchase of land and the purchase and

installation of furniture, office equipment, and IT Infrastructure, as well as the costs to improve building environmental sustainability, to implement workplace strategy, and to optimize the real estate portfolio. This program relates to safety, reliability, or maintenance because it supports seismic safety as it relates to CSO relocations and wildfire mitigations.

MWC 2F – Build Applications and Infrastructure – Includes the costs to design, develop and enhance applications, systems, and infrastructure technology solutions. In addition, costs for Cybersecurity projects are addressed. This program does relate to safety, reliability, or maintenance because it contains mitigations for the Cyber Attack RAMP risk.

MWC 3N – Install/Replace Security Assets – Includes the costs to design, build, install, and replace Corporate Security assets. This program does relate to safety, reliability, or maintenance because it contains mitigations for the Insider Threat RAMP risk.

PACIFIC GAS AND ELECTRIC COMPANY

SECTION 7

COST RECOVERY:

BALANCING AND MEMORANDUM ACCOUNTS

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COST RECOVERY:
BALANCING AND MEMORANDUM ACCOUNTS

A. Introduction

This section includes the balancing and memorandum accounts associated with actual expenditures for programs identified as related to safety, reliability, or maintenance in Pacific Gas and Electric Company's (PG&E) 2020 Risk Spending Accountability Report (RSAR), "where any portion of the program was tracked in a balancing account or memorandum account."[1] The tables below identify which of these programs had expenditures that were recorded to a balancing or memorandum account by Major Work Category (MWC), the name of the account, the purpose of that account from the Preliminary Statement, and the year-end balance.[2,3]

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1 D.19-04-020, p. 37.

2 As noted in the Introduction Section 1, Information Technology (IT) and Corporate Real Estate (CRE) costs attributable to the Lines of Business (LOB) at issue in this report are presented in a decentralized fashion, meaning LOB-specific IT and CRE program costs are included within the LOBs that initiated the programs.

3 Data is as of January 15, 2021.

B. Gas Distribution

TABLE 7-1
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR GAS DISTRIBUTION
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement Name & Purpose	2020 Actuals
1	Expense: MWC LW[(a)]	Gas Leak Abatement Program	New Environmental Regulations Balancing Account (NERBA) Distribution Sub-Account	Decision (D.) 20-12-005	DZ: The purpose of the NERBA is to record and track actual expenses and capital revenue requirements compared to the adopted budget for incremental best practice activities related to Grade 3 leak repairs in accordance with California Public Utilities Commission (Commission) Resolution (Res.) G-3538. The NERBA is a two-way balancing account. The "Distribution Subaccount" records and tracks actual gas distribution expenses and capital revenue requirements compared to the adopted gas distribution revenue requirements for incremental best practice activities related to minimizing methane emissions.	$930.2
2	Capital: MWC 3P	Gas Leak Abatement Program	NERBA Distribution Sub-Account	D.20-12-005	DZ: The purpose of the NERBA is to record and track actual expenses and capital revenue requirements compared to the adopted budget for incremental best practice activities related to Grade 3 leak repairs in accordance with Commission Res.G-3538. The NERBA is a two-way balancing account. The "Distribution Subaccount" records and tracks actual gas distribution expenses and capital revenue requirements compared to the adopted gas distribution revenue requirements for incremental best practice activities related to minimizing methane emissions.	$687.5

(a) In 2020, approximately $109.8 under MWC LW will be realigned to MWC FI. The correction will be captured as part of 2021 recorded data.

C. Electric Distribution

TABLE 7-2
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR ELECTRIC DISTRIBUTION
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement Name & Purpose	2020 Actuals
1	Expense: MWC HN	Vegetation Management Balancing Account (VMBA)	VMBA	D.20-12-005	BU: The purpose of the VMBA is to record the difference between the actual Routine and Enhanced Vegetation Management (EVM) expenses and amounts adopted in PG&E's General Rate Case (GRC) or other base revenue proceeding. The VMBA was created in compliance with D.00-02-046. In D.20-12-005, the Commission authorized PG&E to modify the VMBA to be a two-way balancing account, with a reasonableness review requirement for spending above 120 percent of adopted amounts (reasonableness threshold). In D.20-12-005, the Commission also required PG&E to track actual costs related to tree mortality work for which there is currently no adopted amount. PG&E may amend the VMBA to include additional Vegetation Management (VM) programs. This account is comprised of two subaccounts: The Main Account tracks actual Routine and EVM expenses up to 120 percent of adopted amounts. Undercollections in the Main Account will be determined through the Distribution Revenue Adjustment Mechanism (DRAM) in the Annual Electric True-Up (AET), or through another Tier 2 Advice Letter (AL) as authorized by the Commission. Overcollections will be returned to customers through a regularly scheduled AET or other rate change AL at the end of the rate case cycle or as otherwise authorized by the Commission. The Reasonableness Review Subaccount tracks spending above the reasonableness threshold and actual tree mortality costs, for which there is currently no adopted amount. PG&E may file a separate application seeking approval of any costs in the Reasonableness Review Subaccount—where actual costs exceed 120 percent of the adopted amount. Upon approval, amounts will be transferred to the DRAM or the Portfolio Allocation Balancing Account for recovery from customers.	$736,320
2	Expense: MWC Information Governance (IG)	Manage Var Bal Acct Processes				$542,508

TABLE 7-2
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR ELECTRIC DISTRIBUTION
(CONTINUED)
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement Name & Purpose	2020 Actuals
3	Expense: MWC IF	Electric Distribution Major Emergency	Major Emergency Balancing Account (MEBA)	D.20-12-005	GJ: The purpose of the MEBA is to recover actual expenses and capital revenue requirements resulting from responding to major emergencies and catastrophic events not eligible for recovery through the Catastrophic Event Memorandum Account (CEMA). In some cases, costs relating to major emergencies that are found by the Commission not to be eligible for recovery through the CEMA process may be recoverable through the MEBA. The MEBA is a two-way balancing account in which PG&E records the difference between actual and adopted expenses and capital revenue requirements.	$30,973
4	Capital: MWC 95	Electric Distribution Major Emergency				$64,257
5	Expense:		Wildfire Mitigation Balancing Account (WMBA)	D.20-12-005	IO: PURPOSE: The purpose of the Wildfire Mitigation Balancing Account – Electric (WMBA-E) is to track actual expenses and capital expenditures against adopted amounts and to record associated expenses and capital revenue requirements for fire risk mitigation work, allocated to the electric distribution and generation functions. These costs include, but are not limited to, expenses and the revenue requirements associated with capital expenditures for: advanced system hardening and resiliency; expanded automation and protection; improved wildfire detection; and enhanced operational practices including work related to Public Safety Power Shutoff (PSPS) events. Costs recorded to the WMBA-E do not include costs recovered through the CEMA, the Fire Risk Mitigation Memorandum Account (FRMMA) or the Wildfire Mitigation Plan Memorandum Account (WMPMA). The WMBA is a two-way balancing account, with a reasonableness review requirement for spending above 115 percent of expense and capital expenditure adopted amounts (reasonableness threshold). Any such amounts are tracked separately for subsequent review and approval by the Commission.	
6	AB	Support and Emergency Preparedness and Response (ENT2)				$4,384
7	IG	Manage Var Bal Acct Processes				$209,454
8	Capital:					
9	08	Electric Distribution Overhead (OH) Asset Replacement				$484,756
10	09	Electric Distribution Automation and Protection				$51
11	21	Miscellaneous Capital and ENT2				$14,046

TABLE 7-2
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR ELECTRIC DISTRIBUTION
(CONTINUED)
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement Name & Purpose	2020 Actuals
12	2A	Electric Distribution Preventive Maintenance OH				$71,345
13	49	Electric Distribution Reliability Circuit/Zone				$85,287
14	Expense:		FRMMA	Disposition Letter Dated March 12, 2019	HQ: The purpose of the FRMMA is to record, pursuant to Public Utilities Code (Pub. Util. Code) Section 8386.4 (b)(1), incremental costs of fire risk mitigation work that is not otherwise recovered in PG&E's adopted revenue requirements. Such costs shall include, but are not limited to, expense and capital expenditures for: advanced system hardening and resiliency; expanded automation and protection; improved wildfire detection; enhanced event response capacity, and VM activities. Costs recorded to the FRMMA will not include costs approved for recovery in PG&E GRCs or recovered through PG&E's CEMA, Fire Hazard Prevention Memorandum Account (FHPMA) or other cost recovery mechanisms including the memorandum account approved as part of PG&E's Wildfire Mitigation Plan (WMP) (Pub. Util. Code Section 8386.4 (a)). HX: The purpose of the WMPMA is to record, pursuant to Senate Bill 901 (Pub. Util. Code Section 8386.4 (a)) and the WMP (also known as the Wildfire Safety Plan) approved by the Commission, incremental costs incurred to implement an approved WMP that are not otherwise recovered in PG&E's adopted revenue requirements. Such costs may include expense and capital expenditures for activities including but not limited to: operational practices, inspection programs, system hardening, EVM, enhanced situational awareness, PSPS, and alternative technologies. Costs recorded to the WMPMA will not include costs approved for recovery in PG&E GRCs or recovered through PG&E's CEMA, FHPMA, FRMMA, or other cost recovery mechanisms.	
15	AB	Support and ENT2	WMPMA			$298
16	BF	Electric Operations Patrols/Inspections				$84,779
17	BH	Electric Distribution Routine Emergency				$624
18	GA	Poles – Intrusive Inspection/Test and Treat Program				$10,298
19	GC	Electric Distribution Substations Operate and Maintain Assets				$10,008
20	GE	Electric Distribution Major Emergency				$3,037

TABLE 7-2
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR ELECTRIC DISTRIBUTION
(CONTINUED)
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement Name and Purpose	2020 Actuals
21	IG	Manage Var Bal Acct Processes				$32,064
22	KA	Preventive Maintenance and Equipment Repair, OH				$65,976
23	Capital:					
24	07	Electric Distribution Install/Replace OH Poles				$133,389
25	17	Electric Distribution Routine Emergency				$5,536
26	21	Miscellaneous Capital and ENT2				$2,627
27	2A	Electric Distribution Preventive Maintenance, OH				$104,191

TABLE 7-2
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR ELECTRIC DISTRIBUTION
(CONTINUED)
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement Name & Purpose	2020 Actuals
28	2F	Build IT Applications and Infrastructure				IT: $22,658
29	49	Electric Distribution Circuit/Zone Reliability Program				$7,071
30	59	Electric Distribution Substation Emergency Replacements				$12,581

D. Energy Supply: Nuclear Generation

TABLE 7-3
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR NUCLEAR GENERATION
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement	2020 Actuals
1	Expense: MWC IG	Manage Var Bal Acct Processes	Nuclear Regulatory Commission Rulemaking Balancing Account (NRCRBA)	D.14-08-032	GM: The purpose of the NRCRBA is to recover actual expenses for complying with existing, emerging or evolving Nuclear Regulatory Commission regulations, rulemakings, orders, bulletins and/or generic letters, and the Code of Federal Regulations 10-50-54F – Conditions of Licenses at Diablo Canyon. Specifically, the NRCRBA tracks and adjusts for the difference in expenses based on actual versus adopted costs.	$2,943[(a)]
2	Capital: MWC 05	Tools and Equipment	Diablo Canyon Retirement Balancing Account (DCRBA)	D.18-01-022	HK: The purpose of the DCRBA is to track actual expenses and capital revenue requirements based on actual capital expenditures compared to authorized expense budgets and/or capital revenue requirements and to assure recovery of incurred amounts for the following activities: (1) Diablo Canyon Power Plant's (DCPP or Diablo Canyon) full book value by the time the units cease operations; (2) PG&E's Employee Retention Program for Diablo Canyon employees; and (3) PG&E's Employee Retraining Program for Diablo Canyon employees.	$421.8
3	Capital: MWC 2F	Build IT Apps and Infrastructure	DCRBA	D.18-01-022	HK: see above.	$7,826.0
4	Capital: MWC 20	DCPP Capital	DCRBA	D.18-01-022	HK: see above.	$43,282.8
5	Capital: MWC 3I	Nuclear Safety and Security	DCRBA	D.18-01-022	HK: see above.	$5,944.7

(a) The data provided in this report is as of January 15, 2021. However, after that date an error was discovered with the dollars in MWC IG for Nuclear Generation. $43,000 were inadvertently recorded to MWC IG and should have been recorded to MWC BV.

E. Energy Supply: Power Generation

TABLE 7-4
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR POWER GENERATION
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement	2020 Actuals
1	Expense: MWC IG	Manage Var Bal Acct Processes	Hydro Licensing Balancing Account (HLBA)	D.20-12-005	GL: The purpose of the HLBA is to recover actual expenses and capital revenue requirements based on actual capital expenditures related to Federal Energy Regulatory Commission (FERC) hydro licensing activities, which include, but are not limited to, renewing, amending, surrendering, decommissioning, compliance requirements, FERC and California Division of Safety of Dams (DSOD) regulatory fees, costs associated with implementation of the Crane Valley Recreation Settlement Agreement, and costs associated with work required as a result of the 2017 Oroville Dam incident. Specifically, the HLBA tracks and adjusts for the difference in actual and adopted expenses and capital revenue requirements associated with relicensing and amending/modifying licenses issued on or after January 1, 2012, including costs associated with implementing and complying with new license conditions or requirements resulting from renewed, modified, or amended licenses.	$16,280
2	Expense: MWC IG	Manage Var Bal Acct Processes	FRMMA and WMPMA	Disposition Letter Dated March 12, 2019	HQ: The purpose of the FRMMA is to record, pursuant to Pub. Util. Code Section 8386.4 (b)(1) incremental cost of fire risk mitigation work that is not otherwise recovered in PG&E's adopted revenue requirements. Such costs shall include, but are not limited to, expense and capital expenditures for: advanced system hardening and resiliency; expanded automation and protection; improved wildfire detection; enhanced event response capacity, and vegetation management activities. Costs recorded to the FRMMA will not include costs approved for recovery in PG&E GRCs or recovered through PG&E's CEMA, FHPMA or other cost recovery mechanisms including the memorandum account approved as part of PG&E's annual WMP, as set forth in Pub. Util. Code Section 8386.4 (a).	$674

TABLE 7-4
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR POWER GENERATION
(CONTINUED)
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement	2020 Actuals
					HX: The purpose of the WMPMA is to record, pursuant to Pub. Util. Code Section 8386.4 (a) and the WMP approved by the Commission, incremental costs incurred to implement an approved WMP that are not otherwise recovered in PG&E's adopted revenue requirements. Such costs may include expense and capital expenditures for activities including but not limited to: operational practices, inspection programs, system hardening, EVM, enhanced situational awareness, PSPS, and alternative technologies. Costs recorded to the WMPMA will not include costs approved for recovery in PG&E GRCs or recovered through PG&E's CEMA, FHPMA, FRMMA, or other cost recovery mechanisms.	
3	Expense: MWC IG	Manage Var Bal Acct Processes	VMBA	D.20-12-005	BU: The purpose of the VMBA is to record the difference between the actual Routine and EVM expenses and amounts adopted in PG&E's GRC or other base revenue proceeding. The VMBA was created in compliance with D.00-02-046. In D.20-12-005, the Commission authorized PG&E to modify the VMBA to be a two-way balancing account, with a reasonableness review requirement for spending above 120 percent of adopted amounts (reasonableness threshold). In D.20-12-005, the Commission also required PG&E to track actual costs related to tree mortality work for which there is currently no adopted amount. PG&E may amend the VMBA to include additional VM programs.	$1,461

TABLE 7-4
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR POWER GENERATION
(CONTINUED)
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement	2020 Actuals
4	Capital: MWC 3H	Hydroelectric License and License Conditions	HLBA		GL: The purpose of the HLBA is to recover actual expenses and capital revenue requirements based on actual capital expenditures related to FERC hydro licensing activities, which include, but are not limited to, renewing, amending, surrendering, decommissioning, compliance requirements, FERC and California DSOD regulatory fees, costs associated with implementation of the Crane Valley Recreation Settlement Agreement, and costs associated with work required as a result of the 2017 Oroville Dam incident. Specifically, the HLBA tracks and adjusts for the difference in actual and adopted expenses and capital revenue requirements associated with relicensing and amending/modifying licenses issued on or after January 1, 2012, including costs associated with implementing and complying with new license conditions or requirements resulting from renewed, modified, or amended licenses.	$17,708
5	Capital: MWC 2L	Instl/Rpl for Hydro Safety and Reg	FRMMA and WMPMA		GL: The purpose of the HLBA is to recover actual expenses and capital revenue requirements based on actual capital expenditures related to FERC hydro licensing activities, which include, but are not limited to, renewing, amending, surrendering, decommissioning, compliance requirements, FERC and California DSOD regulatory fees, costs associated with implementation of the Crane Valley Recreation Settlement Agreement, and costs associated with work required as a result of the 2017 Oroville Dam incident. Specifically, the HLBA tracks and adjusts for the difference in actual and adopted expenses and capital revenue requirements associated with relicensing and amending/modifying licenses issued on or after January 1, 2012, including costs associated with implementing and complying with new license conditions or requirements resulting from renewed, modified, or amended licenses.	$41

TABLE 7-4
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR POWER GENERATION
(CONTINUED)
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement	2020 Actuals
					HQ: The purpose of the FRMMA is to record, pursuant to Pub. Util. Code Section 8386.4 (b)(1) incremental cost of fire risk mitigation work that is not otherwise recovered in PG&E's adopted revenue requirements. Such costs shall include, but are not limited to, expense and capital expenditures for: advanced system hardening and resiliency; expanded automation and protection; improved wildfire detection; enhanced event response capacity, and VM activities. Costs recorded to the FRMMA will not include costs approved for recovery in PG&E GRCs or recovered through	

F. Customer Care

TABLE 7-5
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR CUSTOMER CARE
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement	2020 Actuals
1	Expense: MWC IG	Manage Var Bal Acct Processes	FRMMA	Disposition Letter Dated March 12, 2019	HQ: The purpose of the FRMMA is to record, pursuant to Pub. Util. Code Section 8386.4 (b)(1), incremental costs of fire risk mitigation work that is not otherwise recovered in PG&E's adopted revenue requirements. Such costs shall include, but are not limited to, expense and capital expenditures for: advanced system hardening and resiliency; expanded automation and protection; improved wildfire detection; enhanced event response capacity, and VM activities. Costs recorded to the FRMMA will not include costs approved for recovery in PG&E GRCs or recovered through PG&E's CEMA, FHPMA or other cost recovery mechanisms including the memorandum account approved as part of PG&E's WMP (Pub. Util. Code Section 8386.4 (a)).	$18,422

G. Shared Services

TABLE 7-6
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR SHARED SERVICES
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement	2020 Actuals
1	Expense: MWC IG	Manage Var Bal Acct Processes	FRMMA/WMPMA	Disposition Letter Dated March 12, 2019	HQ: The purpose of the FRMMA is to record, pursuant to Pub. Util. Code Section 8386.4 (b)(1), incremental costs of fire risk mitigation work that is not otherwise recovered in PG&E's adopted revenue requirements. Such costs shall include, but are not limited to, expense and capital expenditures for: advanced system hardening and resiliency; expanded automation and protection; improved wildfire detection; enhanced event response capacity, and VM activities. Costs recorded to the FRMMA will not include costs approved for recovery in PG&E GRCs or recovered through PG&E's CEMA, FHPMA or other cost recovery mechanisms including the memorandum account approved as part of PG&E's WMP (Pub. Util. Code Section 8386.4 (a)).	$3,085
2	Capital: MWC 23	Implement Real Estate Strategy	FRMMA/WMPMA			$38,391

TABLE 7-6
BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2020 RSAR FOR SHARED SERVICES
(CONTINUED)
(THOUSANDS OF DOLLARS)

Line No.	MWC	MWC Name	Balancing/ Memorandum Account Name	Disposition of Cost Recovery Request	Preliminary Statement	2020 Actuals
3	Expense: MWC AB	Miscellaneous Expense	WMBA	D.20-12-005	IO: PURPOSE: The purpose of the WMBA-E is to track actual expenses and capital expenditures against adopted amounts and to record associated expenses and capital revenue requirements for fire risk mitigation work, allocated to the electric distribution and generation functions. These costs include, but are not limited to, expenses and the revenue requirements associated with capital expenditures for: advanced system hardening and resiliency; expanded automation and protection; improved wildfire detection; and enhanced operational practices including work related to PSPS events. Costs recorded to the WMBA-E do not include costs recovered through the CEMA, the FRMMA or the WMPMA. The WMBA is a two-way balancing account, with a reasonableness review requirement for spending above 115 percent of expense and capital expenditure adopted amounts (reasonableness threshold). Any such amounts are tracked separately for subsequent review and approval by the Commission.	Shared Services (Aviation): $5,398
4	Capital: MWC 21	Miscellaneous Capital				Shared Services (Aviation): $481

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX A

2020 GRC IMPUTED REGULATORY VALUES METHODOLOGY

PACIFIC GAS AND ELECTRIC COMPANY
APPENDIX A
2020 GRC IMPUTED REGULATORY VALUES METHODOLOGY

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PACIFIC GAS AND ELECTRIC COMPANY
APPENDIX A
2020 GRC IMPUTED REGULATORY VALUES METHODOLOGY

A. Introduction

On December 20, 2019, Pacific Gas and Electric Company (PG&E) and other settling parties (collectively, Settling Parties) filed a Settlement Agreement with the California Public Utilities Commission (CPUC). The Settlement Agreement resolved all issues raised by the Settling Parties in PG&E's test year 2020 General Rate Case (GRC), Application 18-12-009. On December 11, 2020, the CPUC issued Decision (D. or the decision) 20-12-005 in PG&E's 2020 GRC, adopting most provisions in the Settlement Agreement, with certain modifications, and adopting base revenue requirements for the 2020-2022 GRC period.

The section below describes the methodology used by PG&E to develop expense and capital regulatory values (i.e., imputed adopted amounts).

1. 2020 Test Year

The decision adopted 2020 test year operations and maintenance (O&M) and Administrative and General (A&G) expense values at the Major Work Category (MWC) and/or Organizational level, and capital expenditure values at the MWC level as specified in the Settlement Agreement. The adopted test year expense and capital costs at the MWC and/or Organizational levels are included in the Settlement Agreement, Appendix B.

The Settlement Agreement had reductions for certain A&G costs including Short Term Incentive Plan reduction of $88 million for 2020.[1] The capitalized portion of all A&G reduction is $33 million. The $33 million reduction was then applied to capital expenditures as specified in the Settlement Agreement Appendix B proportionately to derive the 2020 test year imputed adopted capital expenditures. The capitalized A&G reduction was not applied to items with specific forecast called out in the Settlement

[1] See Settlement Agreement of the 2020 GRC, Article 2, Section 2.8.2.

Agreement, specifically, System Hardening in Electric Distribution and Plastic Pipe Replacement in Gas Distribution.

2. 2021 to 2022 Post-Test Year

The decision adopted 2021 and 2022 revenue requirements based on the attrition increases of 3.5 percent and 3.9 percent, respectively, included in the Settlement Agreement for the post-test years. The Settlement Agreement did not provide specific MWC values for 2021 and 2022 except for certain specific programs in O&M and capital expenditures such as System Hardening, Plastic Pipe Replacement and customer care stipulation[2] of the Salesforce Phase II and III project.

To develop imputed regulatory values for 2021 and 2022 that conform to the decision revenue requirement increase, PG&E used a 3-step process: (1) derive the capital additions assumed in the rate base and capital revenue requirement approved in Appendix E of the decision (2) break down expense related revenue requirement approved in Appendix E of the decision to expense amounts at the 2020 GRC exhibit-level by MWC (3) calculate the capital expenditures using the capital additions derived from step 1.

Step 1: PG&E used the decision Results of Operations (RO) model to derive the net capital additions that supported the capital revenue requirement increase in the Appendix E of the decision. The decision RO model provides net capital additions at the GRC Exhibit and MWC level.

Step 2: PG&E determined the expense revenue requirement increase for 2021 and 2022 from Appendix E of the Settlement Agreement. To develop the expense imputed values for 2021, PG&E used the composite escalation rates incorporated in the Settlement RO model to escalate the 2020 expense settlement amounts to 2021 by MWC and Maintenance Activity Type (MAT) code or by corporate services department, with the exception of any post-test year amounts specified in the Settlement Agreement or specific Line of Business forecast items accepted as part of the Settlement. For 2022, PG&E calculated the expense by MWC and MAT

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2 HE 98: Stipulation Between PG&E and The Utility Reform Network Regarding Salesforce 2 and 3 Project, p. 3.

code or by corporate services department by escalating the non-labor component amount from 2021 to 2022 using the non-labor escalation rate, while the labor component amount was held constant to 2021 to be consistent with the decision RO calculation, with the exception of the post-test year Settlement adjustments approved in the decision. The labor escalation rates are provided in Exhibit (PG&E-8)[3] and non-labor escalation rates are from Global Insights, which are included in the decision RO model calculation.

Step 3: To convert the decision capital additions to capital expenditure imputed values for 2021 and 2022, PG&E first identified the 2021 and 2022 bottom-up capital expenditure forecast for Diablo Canyon, Hydro Generation, Corporate Real Estate, System Hardening and the Gas Distribution Plastic Pipe Replacement program as agreed in the Settlement Agreement and calculated in the decision RO model.

For the other non bottom-up capital expenditure forecast programs for 2021 and 2022, the decision RO model applied Global Insights escalation factors to escalate the 2020 settlement capital additions amounts to 2021 then to 2022. When a capital project becomes operational or used and useful, inception-to-date capital expenditures are converted to capital additions, which become part of rate base and start earning a capital revenue requirement. The ratio of test year capital additions to test year capital expenditures settlement amounts are calculated at the PG&E Exhibit, Chapter and MWC level. This settlement ratio is then applied to the 2021 and 2022 capital additions to calculate the 2021 and 2022 capital expenditures by Exhibit, Chapter and MWC. The 2021 and 2022 total derived capital expenditure amount based on this described methodology was compared to the PG&E's bottom-up forecast for 2021, 2022 and the final imputed adopted was capped at PG&E's bottom-up forecast for 2021 and 2022.

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3 See 2020 GRC D.20-12-005 of PG&E, HR Section 11.1.1

3. Imputation Methodology (MAT Level for Electric Distribution and Gas Distribution)

To impute regulatory values at the MAT code level, PG&E applied program specific MAT code adjustments to PG&E's forecast for the test year, as appropriate, based on the specification described in the decision, Joint Comparison Exhibit and/or Settlement Agreement. For any adjustments that were not specifically identified at the MAT code level, PG&E prorated the adjustments to PG&E's forecast by MWC to all MAT codes, as applicable, using the MAT code to MWC ratios from PG&E's Application forecast.

4. Units of Work Imputation for Gas and Electric Distribution

To impute the adopted MAT code units of work for 2020, PG&E divided the 2020 imputed MAT code values by the specific unit cost forecast included in opening testimony or updated in the Joint Comparison Exhibits and the Settlement Agreement, as applicable. MAT code labor was adjusted for the change in labor escalation factors from the initial application forecast to reflect the labor escalation factors update included in the Settlement and decision RO model calculation. The reduction in labor resulted in a change in the unit costs.

To impute the adopted units of work for 2021 and 2022, PG&E escalated the 2020 unit cost to 2021 then to 2022 based on the composite escalation rates in the decision RO Model. The imputed 2021 and 2022 units of work were then calculated as the imputed MAT code values divided by the escalated unit cost.

Gas Distribution Exceptions: The exceptions to the above-described units of work imputation methodology are the imputed regulatory volume of inspections for the Gas Distribution Cross Bore Program (MAT JQK) and Plastic Pipe Replacement Program (MAT 14D). For MAT JQK, per the Settlement Agreement, PG&E has the flexibility to perform more or less inspections than the forecast volume for this program. Each year the total volume of recorded inspections will be compared to: (1) the recorded volume of unable-to-access (UTA) inspections, and (2) the calculated volume of non-UTA inspections using the formula adopted in the Settlement Agreement: Non-UTA Units = (Target $ - (UTA Unit Cost X UTA

Units))/Non-UTA Unit Cost. Per Section 2.2.2 of the Settlement Agreement, PG&E will replace 115, 137, 165 miles of plastic pipe under MAT 14D in 2020, 2021, and 2022 respectively.

Electric Distribution Exceptions: The exceptions for Electric Distribution units imputation are for capital MATs (08W, 2AR, 2AP, 49T) that are related to PG&E's community Wildfire safety program. For the wildfire related work, the decision approved specific post-test year forecasts. Accordingly, the 2021 and 2022 imputed units for the wildfire program related MATs were based on the PG&E updated forecast units as submitted in PG&E's Rebuttal Testimony[4] Chapter 2A Table 2A-2.

5. Risk Assessment and Mitigation Phase (RAMP) Regulatory Values Imputation

The imputed regulatory values by Risk Mitigation or Control were developed in alignment with PG&E's forecast.[5] For 2020, PG&E applied any specific Risk Mitigation or Control settlement adjustments to PG&E's forecast, as appropriate. For any settlement adjustments that were not specifically identified, PG&E applied the settlement reductions at the MWC, MAT or Department levels proportionally to all Risk Mitigations or Controls based on the weighting of the RAMP forecast against the total MWC, MAT or Department forecast.

Imputed regulatory values for 2021-2022 were developed using the same methods described in the 2021-2022 Regulatory Values (Post-Test Years) section for consistency to the overall GRC imputation.

Gas Distribution Expense RAMP: For Gas Distribution MAT codes that were linked to a single Risk Mitigation or Control, the total MAT code imputed amount was assigned to the specific Risk Mitigation or Control. The exception is MAT Code JQD, which is based on Exhibit (PG&E-4), Chapter 3, Table 4-6. When several MAT codes were linked to a combination of Risk Mitigation or Controls and forecasts are provided in aggregate, the associated aggregate MAT code imputed values were assigned to the combination of Risk Mitigation or Risk Controls.

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4 Exhibit (PG&E-30) Revised Rebuttal Testimony.

5 GRC-2020-PhI_DR_ED_003-Q02Atch1 and GRC-2020-PhI_DR_ED_003-Q02Atch2

The imputed units for Risk Mitigations or Controls were developed using the same methodology described under “Units of Work Imputation for Gas and Electric Distribution”.

Gas Distribution Capital RAMP: For Gas Distribution capital, all Risk Mitigations or Controls except for Mitigation 2 (New Valve installations in MAT 50E) corresponded to 100 percent of specific MAT codes. The imputed regulatory values at MAT level were directly applied to the specific Risk Mitigations or Controls. For Mitigation 2, MAT 50E work associated with RAMP was imputed based on Exhibit (PG&E-3) Table 4-5 line 1 and adjusted for capitalized A&G reductions from the settlement.

The imputed units for Risk Mitigations or Controls were developed using the same methodology described under “Units of Work Imputation for Gas and Electric Distribution”.

Electric Distribution Expense RAMP: The imputed regulatory values for Electric Distribution Risk Mitigations or Controls were developed using the same methodology described under Gas Distribution Expense RAMP. Electric Distribution had additional instances when one single MAT code had multiple risk mitigations or controls. In these instances, the imputed amounts were developed proportionately based on the forecast weighting of the specific planning orders. Specifically, for Vegetation Management (VM) program, PG&E applied the specific settlement reductions to MAT code HN# and mitigations M16 – Enhanced VM/M8 – Enhance VM Fuel Reduction.

The imputed units for Risk Mitigations or Controls were developed using the same methodology described under “Units of Work Imputation for Gas and Electric Distribution”.

Electric Distribution Capital RAMP: For Electric distribution capital, all MAT codes except for MAT 21# (Miscellaneous capital) and MAT 2AP (Overhead Capital Projects) were linked to one Risk Mitigation or Control. The imputed regulatory values at MAT level were assigned to specific Risk Mitigations or Controls. For MAT 21# and MAT 2AP, PG&E identified specific mitigation and controls related planning orders from PG&E’s forecast to develop the imputed values for each Risk Mitigation or Control.

The imputed units for Risk Mitigations or Controls were developed using the same methodology described under “Units of Work Imputation for Gas

and Electric Distribution." MAT 2AP and 21# were not unitized and hence did not have unit cost or units for the respective risk mitigations or controls.

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX B

2020-2022 IMPUTED REGULATORY VALUES BY LINE OF BUSINESS

PACIFIC GAS AND ELECTRIC COMPANY
APPENDIX B
2020-2022 IMPUTED REGULATORY VALUES BY LINE OF BUSINESS

2020 GRC BUSINESS UNIT EXPENSE IMPUTED ADOPTED REGULATORY VALUES (THOUSANDS OF NOMINAL DOLLARS)

Line	Exhibit	MWC	MWC Description	2020 Imputed	2021 Imputed	2022 Imputed
Gas Distribution (Exhibit 3)						
1	3	AB	Misc Expense	17,278	17,700	17,993
2	3	DD	Provide Field Service	43,572	44,903	44,934
3	3	DE	G Dist Leak Survey	24,329	25,002	25,204
4	3	DF	G&E T&D Locate and Mark	43,953	45,211	45,415
5	3	DG	G Dist Cathodic Protection	20,171	20,727	20,901
6	3	DN	Develop & Provide Trainng	4,796	4,901	5,014
7	3	EX	G Dist Meter Protection	8,222	8,452	8,513
8	3	FG	G Dist Operate System	8,987	9,246	9,294
9	3	FH	G Dist Preventive Maint	22,475	23,111	23,263
10	3	FI	G Dist Corrective Maint	60,251	61,968	62,634
11	3	GF	Gas Trans & Dist Sys Mapping	4,269	4,400	4,401
12	3	GG	Gas Trans & Dist Sys Modeling	6,265	6,456	6,459
13	3	GM	Manage Energy Efficiency-NonBA	3,774	3,870	3,923
14	3	GZ	R&D Non-Balancing Account	3,403	3,488	3,542
15	3	HY	Change/Maint Used Gas Meters	1,828	1,869	1,912
16	3	JQ	G Dist Integrity Mgt (Non Bal)	41,543	42,527	43,316
17	3	JV	Maintain IT Apps & Infra	12,553	12,853	13,085
18	3	LK	G Dist WRO - Maintenance	5,946	6,129	6,240
19	3	OM	Operational Management	17,024	17,530	17,576
20	3	OS	Operational Support	18,442	18,986	19,024
21			**Sub-total Gas Distribution**	**369,080**	**379,328**	**382,643**
Electric Distribution (Exhibit 4)						
22	4	AB	Misc Expense	66,477	68,665	70,985
23	4	BA	E Dist Operate System	21,344	21,993	22,004
24	4	BF	E T&D Patrol/Insp	33,084	33,969	34,161
25	4	BH	E Dist Routine Emergency	57,276	58,923	59,154
26	4	BK	Maint Other Equip	1,662	1,707	1,717
27	4	DD	Provide Field Service	20,381	20,997	21,014
28	4	EV	Manage Service Inquiries	12,625	13,032	13,043
29	4	EW	E TD WRO - Maintenance	8,859	9,404	9,566
30	4	FZ	E Dist Planning & Ops Engineer	16,974	17,478	17,505
31	4	GA	E T&D Maint OH Poles	13,585	13,930	14,219
32	4	GC	E Dist Subst O&M	29,125	29,891	30,078
33	4	GE	E Dist Mapping	5,899	6,032	6,102
34	4	HG	Elec Trans Ops Engr & Tech	10,948	11,159	11,357
35	4	HN	E Dist Tree Trim Bal Acct	548,013	602,814	663,095
36	4	HX	E T&D Automation & Protection	2,048	2,100	2,116
37	4	IF	E Dist Major Emergency	33,743	34,648	34,841
38	4	IS	Bill Customers	1,088	1,108	1,127
39	4	JV	Maintain IT Apps & Infra	5,246	5,361	5,428
40	4	KA	E Dist Maint OH General	32,449	33,279	33,521
41	4	KB	E Dist Maint UG	12,537	12,836	12,961
42	4	KC	E Dist Maint Network	4,025	4,131	4,157
43	4	OM	Operational Management	7,217	7,429	7,444
44	4	OS	Operational Support	22,305	22,952	23,009
45			**Sub-total Electric Distribution**	**966,909**	**1,033,835**	**1,098,608**

2020 GRC BUSINESS UNIT EXPENSE IMPUTED ADOPTED REGULATORY VALUES
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Energy Supply (Exhibit 5)						
46	**5**	AB	Misc Expense	14,700	14,711	(29,423)
47	**5**	AK	Manage Environmental Oper	1,946	1,989	2,033
48	**5**	BP	Manage DCPP Business	14,064	14,425	14,901
49	**5**	BQ	DCPP Support Services	47,828	47,128	47,933
50	**5**	BR	Operate DCPP Plant	85,587	79,481	91,137
51	**5**	BS	Maintain DCPP Plant Assets	103,526	97,038	125,142
52	**5**	BT	Nuclear Generation Fees	15,286	15,459	15,456
53	**5**	BV	Maintain DCPP Plant Configurtn	42,503	35,803	34,965
54	**5**	EO	Provide Nuclear Support	61	(12)	(12)
55	**5**	IG	Manage Var Bal Acct Processes	5,555	5,831	6,002
56	**5**	JV	Maintain IT Apps & Infra	666	682	692
57	**5**	OM	Operational Management	7,940	8,534	8,927
58	**5**	OS	Operational Support	18,334	20,954	23,264
59			**Sub-total Nuclear Generation**	**357,996**	**342,022**	**341,016**
60	**5**	AB	Misc Expense	6,303	6,465	6,541
61	**5**	AK	Manage Environmental Oper	1,013	1,042	1,048
62	**5**	AX	Maint Resv	23,691	24,292	24,592
63	**5**	AY	Habitat and Species Protection	137	141	141
64	**5**	EP	Manage Property & Bldgs	986	1,015	1,018
65	**5**	ES	Implement Environment Projects	53	54	55
66	**5**	IG	Manage Var Bal Acct Processes	5,251	5,397	5,433
67	**5**	JV	Maintain IT Apps & Infra	480	492	499
68	**5**	KG	Operate Hydro Generation	30,807	31,674	31,876
69	**5**	KH	Maint Hydro Generating Equip	21,395	21,976	22,157
70	**5**	KI	Maint Hydro Bldg	8,856	9,079	9,194
71	**5**	KJ	License Compliance Hydro Gen	36,622	37,484	38,103
72	**5**	OM	Operational Management	3,298	3,394	3,407
73	**5**	OS	Operational Support	6,205	6,378	6,421
74			**Sub-total Hydro Generation**	**145,099**	**148,883**	**150,485**
75	**5**	AB	Misc Expense	55	57	58
76	**5**	AK	Manage Environmental Oper	2,627	2,691	2,730
77	**5**	KK	Operate Fossil Generation	12,834	13,176	13,301
78	**5**	KL	Maint Fossil Generating Equip	30,785	31,586	31,928
79	**5**	KM	Maint Fossil Bldg	2,931	2,995	3,054
80	**5**	KQ	Operate Alternative Gen	826	847	858
81	**5**	KR	Maint AltGen Generating Equip	3,322	3,398	3,459
82	**5**	KS	Maint AltGen Bldg	505	516	526
83	**5**	OM	Operational Management	273	281	281
84	**5**	OS	Operational Support	1,061	1,093	1,094
85			**Sub-total Fossil Generation**	**55,218**	**56,639**	**57,289**
86			**Sub-total Power Generation**	**200,317**	**205,521**	**207,774**
87	**5**	AB	Misc Expense	488	502	505
88	**5**	CT	Acq & Manage Elect Supply	23,244	23,987	24,019
89	**5**	CV	Acq & Manage Gas Supply	2,086	2,149	2,151
90	**5**	CY	Manage Electric Grid Ops	10,765	11,070	11,109
91	**5**	JV	Maintain IT Apps & Infra	957	981	994
92			**Sub-total Energy Policy and Procurement**	**37,540**	**38,688**	**38,778**
93			**Sub-total Energy Suppy**	**595,853**	**586,232**	**587,567**

2020 GRC BUSINESS UNIT EXPENSE IMPUTED ADOPTED REGULATORY VALUES
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Customer Care (Exhibit 6)						
94	**6**	AR	Read & Investigate Meters	10,742	11,122	11,177
95	**6**	DD	Provide Field Service	687	708	708
96	**6**	DK	Manage Customer Inquiries	60,493	62,352	62,569
97	**6**	EL	Develop New Revenue	24,621	25,119	25,491
98	**6**	EY	Change/Maint Used Elec Meter	8,800	9,062	9,083
99	**6**	EZ	Manage Var Cust Care Processes	39,425	40,471	40,917
100	**6**	FK	Retain & Grow Customers	878	903	909
101	**6**	GM	Manage Energy Efficiency-NonBA	8,633	8,831	8,986
102	**6**	HY	Change/Maint Used Gas Meters	6,637	6,838	6,849
103	**6**	IS	Bill Customers	54,902	56,614	57,254
104	**6**	IT	Manage Credit	15,238	15,653	15,806
105	**6**	IU	Collect Revenue	21,086	21,714	21,866
106	**6**	IV	Provide Account Services	17,161	17,671	17,764
107	**6**	JV	Maintain IT Apps & Infra	3,746	3,827	3,875
108	**6**	OM	Operational Management	4,132	4,262	4,272
109	**6**	OS	Operational Support	308	317	318
110			**Sub-total Customer Care**	**277,489**	**285,463**	**287,845**
Shared Services & IT (Exhibit 7)						
111	**7**	AB	Misc Expense	9,827	10,124	10,165
112	**7**	FL	Safety Engineering & OSHA Cmpl	17,427	17,953	18,031
113	**7**	JV	Maintain IT Apps & Infra	188	193	195
114	**7**	KX	Prov Human Resource Svcs	5,806	5,986	6,004
115			**Sub-total Safety**	**33,248**	**34,256**	**34,395**
116	**7**	AB	Misc Expense	86,170	88,069	89,506
117	**7**	BP	Manage DCPP Business	5,359	5,507	5,612
118	**7**	JV	Maintain IT Apps & Infra	16	17	17
119			**Sub-total Transportation**	**91,545**	**93,593**	**95,135**
120	**7**	AB	Misc Expense	1,604	1,653	1,659
121			**Sub-total Materials**	**1,604**	**1,653**	**1,659**
122	**7**	JL	Procure Materials & Services	16,573	17,064	17,157
123	**7**	JV	Maintain IT Apps & Infra	36	37	37
124	**7**	OS	Operational Support	6,689	6,883	6,904
125			**Sub-total Sourcing**	**23,298**	**23,984**	**24,099**
126	**7**	AB	Misc Expense	(65,890)	(67,372)	(68,605)
127	**7**	BI	Maint Buildings	4,004	4,088	4,174
128	**7**	EP	Manage Property & Bldgs	106,997	109,404	111,406
129	**7**	JH	Implement RealEstate Strategy	8,183	8,379	8,510
130	**7**	JV	Maintain IT Apps & Infra	1,420	1,455	1,476
131			**Sub-total Real Estate**	**54,714**	**55,954**	**56,961**

2020 GRC BUSINESS UNIT EXPENSE IMPUTED ADOPTED REGULATORY VALUES
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

132	7	AB	Misc Expense	1,455	1,500	1,505
133	7	AK	Manage Environmental Oper	8,287	8,475	8,577
134	7	AY	Habitat and Species Protection	148	151	153
135	7	CR	Mnge Waste Disp & Transp	2,205	2,245	2,285
136	7	ES	Implement Environment Projects	699	712	725
137	7	JE	Manage Land Services	3,460	3,546	3,594
138	7	JK	Manage Environ Remed (Earning)	1,974	2,033	2,043
139	7	JV	Maintain IT Apps & Infra	16	16	17
140	7	KY	Prov Regulation Svcs	1,465	1,513	1,514
141	7	OM	Operational Management	201	209	209
142	7	OS	Operational Support	427	439	440
143			**Sub-total Land and Environmental**	**20,336**	**20,838**	**21,060**
144	7	AB	Misc Expense	15,575	15,993	16,160
145	7	JV	Maintain IT Apps & Infra	2,650	2,715	2,754
146			**Sub-total ERIM**	**18,225**	**18,708**	**18,915**
147			**Sub-total Shared Services**	**242,970**	**248,987**	**252,224**
148	7	AB	Misc Expense	(34,884)	(35,768)	(36,239)
149	7	JV	Maintain IT Apps & Infra	286,478	293,513	297,728
150	7	OM	Operational Management	521	536	539
151	7	OS	Operational Support	612	640	640
152			**Sub-total Information Technology**	**252,726**	**258,921**	**262,668**
153	7	JV	Maintain IT Apps & Infra	32,511	33,311	33,792
154	7	KZ	Prov Risk/Security Svcs	15,055	15,421	15,652
155	7	OM	Operational Management	1,469	1,513	1,520
156			**Sub-total Cyber and Corporate Security**	**49,034**	**50,246**	**50,964**
157			**Sub-total Information Technology and Security**	**301,760**	**309,167**	**313,632**
158			**Sub-total Shared Services & IT**	**544,730**	**558,154**	**565,856**

2020 GRC CORPORATE SERVICES EXPENSE IMPUTED ADOPTED REGULATORY VALUES
(THOUSANDS OF NOMINAL DOLLARS)

Line	Exhibit	Corporate Services Organization	2020 Imputed	2021 Imputed	2022 Imputed
1	8	Human Resources	76,096	78,308	78,950
2	9	Finance	51,195	52,738	53,128
3	9	Risk and Audit	11,462	11,832	11,893
4	9	Compliance & Ethics	7,782	7,994	8,092
5	9	Regulatory Affairs	15,385	15,875	15,965
6	9	Law	48,655	49,935	50,608
7	9	Executive Offices and Corporate Secretary	6,219	6,382	6,470
8	9	Corporate Affairs	24,871	25,543	25,861
9		**Sub-total Corporate Services**	**241,665**	**248,606**	**250,967**

Line	Exhibit	IT Expense	2020 Imputed	2021 Imputed	2022 Imputed
13	8	Human Resources	2,059	2,110	2,140
14	9	Finance	1,211	1,241	1,259
15	9	Risk and Audit	249	255	259
16	9	Compliance & Ethics	475	487	494
17	9	Regulatory Affairs	396	406	411
18	9	Law	4	4	4
19	9	Executive Offices and Corporate Secretary	0		
20	9	Corporate Affairs	101	103	105
21		**Sub-total IT Expense**	**4,495**	**4,605**	**4,672**

Line	Exhibit	Corporate Services Organization incl. IT	2020 Imputed	2021 Imputed	2022 Imputed
22	8	Human Resources	78,155	80,418	81,090
23	9	Finance	52,406	53,979	54,387
24	9	Risk and Audit	11,711	12,087	12,152
25	9	Compliance & Ethics	8,257	8,480	8,585
26	9	Regulatory Affairs	15,780	16,280	16,377
27	9	Law	48,659	49,939	50,613
28	9	Executive Offices and Corporate Secretary	6,219	6,382	6,470
29	9	Corporate Affairs	24,972	25,647	25,966
33		**Total Corporate Services (incl. IT)**	**246,160**	**253,212**	**255,639**

2020 GRC BUSINESS UNIT CAPITAL IMPUTED ADOPTED REGULATORY VALUES
(THOUSANDS OF NOMINAL DOLLARS)

Line	Exhibit	MWC	MWC Description	2020 Imputed	2021 Imputed	2022 Imputed
Gas Distribution (Exhibit 3)						
1	3	5	Tools & Equipment	3,335	3,416	3,502
2	3	14	G Dist Pipeline Repl Program	453,378	528,983	626,633
3	3	27	Gas Meter Protection-Capital	21,603	17,263	15,927
4	3	29	G Dist Customer Connects	86,156	88,190	89,962
5	3	31	NGV - Station Infrastructure	4,065	4,163	4,268
6	3	47	G Dist Capacity	38,894	39,835	40,836
7	3	50	G Dist Reliability General	228,487	235,935	241,092
8	3	51	G Dist WRO	74,419	79,034	80,332
9	3	52	G Dist Leak Repi/Emergency	881	902	925
10	3	74	Install New Gas Meters	1,941	1,984	2,034
11	3	2F	Build IT Apps & Infra	11,636	11,455	11,674
12	3	2K	G Dist Repl/Convert Cust HPR	58,998	60,425	61,943
13	3	4A	G Dist Ctrl Operations Assets	29,704	30,461	30,335
14			**Sub-total Gas Distribution**	**1,013,497**	**1,102,045**	**1,209,462**
Electric Distribution (Exhibit 4)						
15	4	5	Tools & Equipment	7,397	7,816	8,241
16	4	6	E Dist Line Capacity	90,794	91,883	94,348
17	4	7	E Dist Inst/Repl OH Poles	108,279	109,237	112,168
18	4	8	E Dist Replace OH Asset	544,535	876,248	1,100,590
19	4	9	E Dist Automation & Protection	33,845	35,557	36,124
20	4	10	E Dist WRO General	121,507	142,157	140,436
21	4	16	E Dist Customer Connects	450,570	463,208	480,119
22	4	17	E Dist Routine Emergency	183,518	188,416	193,472
23	4	21	Misc Capital	(24,929)	(30,126)	(31,031)
24	4	30	E Dist WRO Rule 20A	33,420	34,312	35,233
25	4	46	E Dist Subst Capacity	33,678	58,317	30,643
26	4	48	E Dist Subst Repl Other Equip	49,407	53,475	57,551
27	4	49	E Dist Reliability Ckt/Zone	35,603	35,419	30,846
28	4	54	E Dist Subst Repl Transformer	5,513	5,660	5,812
29	4	56	E Dist Replace UG Asset-Gen	98,751	101,387	104,107
30	4	58	E Dist Repl Substation Safety	4,610	4,733	4,859
31	4	59	E Dist Subst Emergency Repl	62,612	64,284	66,008
32	4	63	E T&D Control System/ Facility	36,915	32,252	32,889
33	4	95	E Dist Major Emergency	55,086	56,557	58,074
34	4	2A	E Dist Inst/Repl OH General	192,504	198,581	195,291
35	4	2B	E Dist Inst/Repl UG	57,229	59,397	62,124
36	4	2C	E Dist Inst/Repl Network	19,261	20,019	18,509
37	4	2F	Build IT Apps & Infra	17,570	17,394	17,769
38			**Sub-total Electric Distribution**	**2,217,676**	**2,626,180**	**2,854,182**

2020 GRC BUSINESS UNIT CAPITAL IMPUTED ADOPTED REGULATORY VALUES
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Energy Supply (Exhibit 5)						
39	**5**	3	Office Furniture & Equipment	96	31	13
40	**5**	5	Tools & Equipment	619	475	334
41	**5**	20	DCPP Capital	38,363	20,973	10,230
42	**5**	2F	Total Electric Distribution	4,862	4,295	4,432
43	**5**		**Sub-total Nuclear Generation**	**43,940**	**25,774**	**15,008**
44	**5**	3	Office Furniture & Equipment	15	16	16
45	**5**	5	Tools & Equipment	675	690	701
46	**5**	11	Relicensing Hydro Gen	427	212	28
47	**5**	12	Implement Environment Projects	488	1,511	1,596
48	**5**	2F	Office Furniture & Equipment	7,451	6,432	6,461
49	**5**	2L	Instl/Rpl for Hydro Safety&Reg	23,485	29,012	22,051
50	**5**	2M	Instal/Repl Hydro Gneratng Eqp	105,015	106,676	64,319
51	**5**	2N	Instal/Repl Resv,Dams&Waterway	52,597	59,695	69,102
52	**5**	2P	Instl/Repl Hydr BldgGrndInfrst	5,138	3,919	6,084
53	**5**	3H	Hydroelec Lic & Lic Conditions	18,918	32,110	58,285
54			**Sub-total Hydro Generation**	**214,210**	**240,272**	**228,642**
55	**5**	5	Tools & Equipment	361	368	373
56	**5**	2S	Instal/Repl Fosil Gneratng Eqp	6,216	5,081	5,057
57	**5**	2T	Instl/Repl Fosl BldgGrndInfrst	195	-	-
58	**5**	3A	Instl/Rpl for AltGen Safty&Reg	24	24	25
59	**5**	3B	Instal/Repl AltGen GneratngEqp	775	688	703
60			**Sub-total Fossil Generation**	**7,571**	**6,161**	**6,159**
61			**Sub-total Power Generation**	**221,781**	**246,434**	**234,801**
62	5	2F	Build IT Apps & Infra	9,243	13,126	10,237
63			**Sub-total Energy Policy and Procurement**	**9,243**	**13,126**	**10,237**
64			**Sub-total Energy Suppy**	**274,963**	**285,334**	**260,047**
Customer Care (Exhibit 6)						
65	6	5	Tools & Equipment	244	255	263
66	6	21	Misc Capital	3,512	500	500
67	6	25	Install New Electric Meters	54,569	54,011	51,559
68	6	74	Install New Gas Meters	73,647	76,718	78,665
69	6	2F	Build IT Apps & Infra	6,726	7,852	12,373
70			**Sub-total Customer Care**	**138,698**	**139,336**	**143,360**

2020 GRC BUSINESS UNIT CAPITAL IMPUTED ADOPTED REGULATORY VALUES
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Shared Services & IT (Exhibit 7)						
71	7	2F	Build IT Apps & Infra	72	70	73
72			**Sub-total Safety**	**72**	**70**	**73**
73	7	4	Fleet / Auto Equip	27,451	28,674	67,213
74	7	5	Tools & Equipment	1,279	1,303	1,329
75	7	28	EV - Station Infrastructure	3,450	3,523	3,603
76			**Sub-total Transportation**	**32,180**	**33,501**	**72,145**
77	7	5	Tools & Equipment	238	221	203
78	7	21	Misc Capital	562	579	597
79			**Sub-total Materials**	**800**	**800**	**800**
80	7	22	Maintain Buildings	78,097	82,820	92,547
81	7	23	Implement RealEstate Strategy	92,091	92,473	88,005
82			**Sub-total Real Estate**	**170,188**	**175,294**	**180,552**
83	7	5	Tools & Equipment	300	300	300
84	7	12	Implement Environment Projects	5,979	5,979	5,979
85			**Sub-total Land and Environmental**	**6,279**	**6,279**	**6,279**
86	7	2F	Build IT Apps & Infra	2,425	1,425	1,731
87			**Sub-total ERIM**	**2,425**	**1,425**	**1,731**
88			**Sub-total Shared Services**	**211,944**	**217,368**	**261,581**
89	7	2F	Build IT Apps & Infra	184,566	179,251	180,977
90			**Sub-total Information Technology**	**184,566**	**179,251**	**180,977**
91	7	2F	Build IT Apps & Infra	21,846	23,656	20,269
92	7	3N	Security Install/Replace	16,640	17,318	18,107
93			**Sub-total Cyber and Corporate Security**	**38,487**	**40,974**	**38,376**
94			**Sub-total Information Technology and Security**	**223,053**	**220,226**	**219,353**
95			**Sub-total Shared Services & IT**	**434,997**	**437,594**	**480,934**
Human Resources (Exhibit 8)						
96	8	5	Tools & Equipment	35	35	35
97	8	22	Maintain Buildings	1,213	1,213	1,213
98	8	2F	Build IT Apps & Infra	1,165	2,186	2,241
99			**Sub-total Human Resources**	**2,413**	**3,434**	**3,489**
Administrative and General (Exhibit 9)						
100	**9**	2F	Build IT Apps & Infra	4,548	4,468	4,598
101	**9**		**Sub-total Finance**	**4,548**	**4,468**	**4,598**
102	**9**	2F	Build IT Apps & Infra	1,955	1,921	1,985
103	**9**		**Sub-total Risk, Audit and Insurance**	**1,955**	**1,921**	**1,985**
104	**9**	2F	Build IT Apps & Infra	379	-	-
105	**9**		**Sub-total Compliance & Ethics**	**379**	**-**	**-**
106	**9**	2F	Build IT Apps & Infra	1,439	1,735	1,447
107	**9**		**Sub-total Regulatory Affairs**	**1,439**	**1,735**	**1,447**
108			**Sub-total Administrative and General**	**8,322**	**8,124**	**8,029**