**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.<br><br>(U 39 M) | Application No. 18-12-009<br>(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<br>(Filed June 30, 2020) |
| **(NOT CONSOLIDATED)** | |
| Application of Pacific Gas and Electric Company (U 39 M) for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2023 | Application No. 21-06-021<br>(Filed June 30, 2021) |

# PACIFIC GAS AND ELECTRIC COMPANY'S (U39M) 2021 RISK SPENDING ACCOUNTABILITY REPORT


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Dated: March 31, 2022

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

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# PACIFIC GAS AND ELECTRIC COMPANY'S (U39M) 2021 RISK SPENDING ACCOUNTABILITY REPORT

Pacific Gas and Electric Company (PG&E) submits its 2021 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 2021 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

[1] Decision, Ordering Paragraph (OP) 9.

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.

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 2021 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 11, 2022.

PG&E's 2021 RSAR is provided as Attachment A.

Respectfully Submitted,

Pacific Gas and Electric Company

By: */s/ Peter Ouborg*
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Dated: March 31, 2022

[2] D.19-04-020, Attachment 2, p. 1.
[3] Decision, p. 41, fn. 75.

# PACIFIC GAS AND ELECTRIC COMPANY

# ATTACHMENT A

# PACIFIC GAS AND ELECTRIC COMPANY'S (U39M) 2021 RISK SPENDING ACCOUNTABILITY REPORT

# PACIFIC GAS AND ELECTRIC COMPANY

# 2021 RISK SPENDING ACCOUNTABILITY REPORT IN COMPLIANCE WITH CALIFORNIA PUBLIC UTILITIES COMMISSION DECISION 19-04-020

## MARCH 31, 2022

PACIFIC GAS AND ELECTRIC COMPANY
2021 RISK SPENDING ACCOUNTABILITY REPORT
IN COMPLIANCE WITH CALIFORNIA PUBLIC UTILITIES COMMISSION
DECISION 19-04-020
MARCH 31, 2022

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# INTRODUCTION AND OVERVIEW

PACIFIC GAS AND ELECTRIC COMPANY
SECTION 1
INTRODUCTION AND OVERVIEW

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# PACIFIC GAS AND ELECTRIC COMPANY
# SECTION 1
# INTRODUCTION AND OVERVIEW

## A. Introduction

Pacific Gas and Electric Company (PG&E or the Company) submits its 2021 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) 2021 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 the year 2021.

Sections 2 through 6 contain detailed comparisons of PG&E's 2021 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 2021, by Major Work Category (MWC) and/or Maintenance Activity Type (MAT) Code (where applicable) for Gas Distribution,[2] Electric Distribution, Energy Supply, Customer Care, and Shared Services/IT.
2) Variance explanations for:
    a) Imputed adopted versus recorded costs/units for 2021 by MWC and/or MAT for safety, reliability, and maintenance work subject to the following thresholds.[3]

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

2 Gas Transmission and Storage assets were not in the 2020 GRC. These assets are included in the GRC beginning in the year 2023 and will be included in this report for the 2023 cycle.

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

- 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;
- 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.[4]

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)."[5] PG&E's 2017 RAMP supported PG&E's 2020 GRC. The data provided in this RSAR is organized by RAMP Risk, RAMP mitigation, RAMP control and Non-RAMP spending on safety, reliability and maintenance programs. The RAMP risks, mitigations, and controls included in this report are those presented in PG&E's 2020 GRC, which updated the 2017 RAMP analysis.

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 identified after PG&E's 2020 GRC submission that are safety, reliability, and maintenance activities are included in the "Post 2020 GRC Mitigations" category.

In its review letter of PG&E's 2019 RSAR[6] Energy Division (ED) 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

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

5 D.19-04-020, Attachment 2, p. 1, p. 36. D.21-11-009 expanded this requirement to include both RAMP mitigations and controls, p. 15.

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

did not prioritize funding of 2021 work and activities with the use of RSEs. However, as part of the LOB budget proposal process described below, some LOBs use the RSE's as a data point in their budget proposal process. PG&E's 2021 planning year enterprise budget planning process required each LOB or department to prepare a bottoms up risk-informed budget proposal. These bottoms-up forecasts reflect the investment and resource plans created by each LOB with input from its investment planning team, asset and risk managers, engineering, LOB leadership, and other subject matter experts. In addition, PG&E includes further details regarding change in priority that led to a shifting of funds between programs in its variance explanations where applicable.

## B. 2021 Expense and Capital Comparison of Imputed Adopted and Recorded Costs Summary

This report provides a summary of PG&E's 2021 actual expense and capital expenditures[7] compared to imputed adopted costs derived from the Commission's decision on PG&E's 2020 GRC (2020 GRC Decision).[8] This report includes expenditures of the core 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 ED's most recent guidance.[9] While this report presents certain LOB expenditures, it is not representative of total Company expenditures. Specifically, this report does not include Electric Transmission costs, Gas Transmission & Storage costs, expenditures on companywide items, including liability insurance premiums that were 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

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7 Data is as of January 14, 2022. The imputed values do not reflect any reorganizations. The recorded values do reflect any reorganizations and these reorganizations are explained in the variance explanations.

8 D.20-12-005.

9 July 9, 2021 letter from ED Director, Edward Randolph, to PG&E's Vice President of Regulatory Affairs, Robert Kenney.

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

**1. Expense**

PG&E's 2021 LOB expense spending exceeded imputed adopted values by $1,684.1 million. The increase was primarily attributable to routine and enhance vegetation management (EVM), tree mortality work, costs associated with responding to major emergencies, and additional wildfire risk mitigation work which included: enhanced inspections and associated repairs, Enhanced Powerline Safety Settings (EPSS), and Public Safety Power Shutoff (PSPS) event activities within Electric Distribution. These increases were partially offset by lower levels of spending in Shared Services and IT. Spending reductions for Shared Services and IT were primarily due to a change in IT's overhead allocation cost pool which reduced recorded costs 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 2021, PG&E's capital spending exceeded imputed adopted values by $1,244.4 million. The increase was primarily attributable to additional spending in Electric Distribution related to pole replacements and equipment replacements associated with enhanced wildfire inspections, new business connections, and major emergency, and additional spending in Shared Services on CRESS investments to prepare the new Oakland Headquarters for ownership and occupancy starting in April 2022. The increases were partially offset by lower spending in Energy Supply, Corporate Services, and Human Resources.

## C. Summary Tables

PG&E's methodology to derive its imputed adopted costs from the 2020 GRC Decision is described in Appendix A: 2021 GRC Imputed Regulatory Values Methodology. The tables below summarize PG&E's 2021 spending by expense and capital by LOB.

**TABLE 1-1**
**2021 IMPUTED ADOPTED VS. ACTUAL EXPENSE BY LOB**
**(MILLIONS OF DOLLARS)**

| Line No. | LOB | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A |
|---|---|---|---|---|---|
| 1 | Gas Distribution | 379,327.8 | 399,549.7 | 20,221.9 | 5.3% |
| 2 | Electric Distribution | 1,033,834.8 | 2,643,983.8 | 1,610,149.0 | 155.7% |
| 3 | Energy Supply | 586,258.8 | 593,891.2 | 7,632.4 | 1.3% |
| 4 | Customer Care | 285,463.4 | 337,489.8 | 52,026.4 | 18.2% |
| 5 | Shared Services/IT | 558,153.5 | 513,627.3 | (44,526.3) | -8.0% |
| 6 | Corporate Services | 172,794.2 | 210,508.4 | 37,714.2 | 21.8% |
| 7 | Human Resources | 80,417.6 | 81,306.4 | 888.9 | 1.1% |
| 8 | **Total** | **3,096,250.1** | **4,780,356.7** | **1,684,106.6** | **54.4%** |

**TABLE 1-2**
**2021 IMPUTED ADOPTED VS. ACTUAL CAPITAL BY LOB**
**(MILLIONS OF DOLLARS)**

| Line No. | LOB | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A |
|---|---|---|---|---|---|
| 1 | Gas Distribution | 1,102,045.0 | 1,224,647.8 | 122,602.9 | 11.1% |
| 2 | Electric Distribution | 2,626,180.4 | 3,463,922.6 | 837,742.3 | 31.9% |
| 3 | Energy Supply | 285,333.7 | 274,328.6 | (11,005.1) | -3.9% |
| 4 | Customer Care | 142,859.0 | 180,254.7 | 37,395.7 | 26.2% |
| 5 | Shared Services/IT | 434,070.6 | 701,423.7 | 267,353.1 | 61.6% |
| 6 | Corporate Services | 8,124.4 | 216.5 | (7,907.8) | -97.3% |
| 7 | Human Resources | 3,434.0 | 1,651.1 | (1,782.8) | -51.9% |
| 8 | **Total** | **4,602,047.0** | **5,846,445.1** | **1,244,398.1** | **27.0%** |

## D. 2021 Imputed vs. Recorded Comparison by LOB

The significant drivers of the differences between 2021 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 2021 exceeded imputed adopted values by $20.2 million or 5.3 percent. For safety, reliability, and maintenance work, 2021 recorded expenses exceeded imputed adopted values by $32.7 million, or 10.4 percent.[10] The increases were primarily attributable to: (1) distribution main leak repairs performed based on higher leak find rates, (2) higher costs in service leak repairs, and (3) more Picarro leak surveys completed based on the compliance leak plan.

Capital: Gas Distribution's total 2021 recorded capital expenditures exceeded imputed adopted values by $122.6 million, or 11.1 percent. For safety, reliability, and maintenance work, 2021 recorded capital expenditures exceeded imputed adopted values by $99.5 million, or 10.8 percent. The increases were primarily attributable to: (1) higher unit costs for gas regulator station rebuilds, and (2) a higher volume of pipe replacement work completed.

### 2. Electric Distribution

Expense: Electric Distribution's total recorded expenses in 2021 exceeded imputed adopted values by $1,610.1 million or 155.7 percent. For safety, reliability and maintenance work, 2021 recorded expenses exceeded imputed adopted values by $1,593.9 million or 162.5 percent. The increases were primarily attributable to: (1) additional trees being worked and higher costs for routine and EVM driven by Senate Bill 247 prevailing wage requirements, (2) wildfire mitigation work not forecast in the 2020 GRC which included enhanced inspections and associated repairs and EPSS, (3) tree mortality work not forecast in the 2020 GRC and included to the Vegetation Management Balancing Account per D.20-12-005, (4) costs for executing PSPS events not forecast in the 2020 GRC; and (5) costs associated with responding to major emergencies. Other increase drivers include costs for PG&E's pole loading program and the 2018 Field Meter Operations (FMO) transfer.

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

Capital: Electric Distribution's total recorded capital expenditures in 2021 exceeded imputed adopted values by $837.7 million or 31.9 percent. For safety, reliability and maintenance work, 2021 recorded capital expenditures exceeded imputed adopted values by $647.4 million or 32.6 percent. The primary drivers of the increase were: (1) an increased number of pole replacements with higher unit costs; (2) equipment replacements identified through enhanced inspections in High Fire Threat District (HFTD) areas; (3) costs associated with responding to routine and major emergencies; (4) completion of additional distribution line capacity projects; and (5) an increased number of sectionalizing devices installed to reduce PSPS impacts. 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 system hardening HFTD areas due to a realignment of work consistent with improved risk modelling.

### 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 2021 were below imputed adopted values by $29.3 million or 8.6 percent. For safety, reliability and maintenance work, 2021 recorded expenses were below imputed adopted values by $33.1 million or 11.2 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 2021 recorded capital expenditures exceeded imputed adopted values by $17.7 million or 68.6 percent. For safety, reliability and maintenance work, 2021 recorded capital expenditures exceeded imputed adopted by $15.5 million or 74.1 percent. The primary driver for the increase is an emergent project to replace the main generator stator core cooling water manifold piping.

**c. Power Generation**

Expense: Power Generation's total expenses in 2021 exceeded imputed adopted by $34.5 million or 16.8 percent. For safety, reliability and maintenance work, 2021 recorded expenses exceeded imputed adopted values by $39.3 million or 21.6 percent. The increase drivers are primarily attributable to: (1) 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 occur in 2021 at Colusa Generating Station; (2) rescheduling of the Lake Almanor Prattville Intake dredging project from 2019 to 2021; (3) emergent costs related to achieving full compliance for all risks at Level 3 per PG&E's Compliance Maturity Model; (4) an emergent hydro system-wide powerhouse safety mitigation program to mitigate safety risks resulting from dropped objects from heights (e.g. tools from scaffolding); (5) emergent costs related to a fatality investigation; (6) costs related to accelerating guidance document completion to meet Level 3 compliance deadline; (7) emergent physical security and cybersecurity costs at our FERC-regulated facilities to comply with new FERC regulations; and (8) emergent costs related to new California Independent System Operator telemetry requirements at PG&E-owned powerhouses.

Capital: Power Generation's total 2021 recorded capital expenditures were below the imputed adopted values by $21.6 million or 8.8 percent. For safety, reliability and maintenance work, 2021 recorded capital expenditures were below the imputed adopted values by $17.1 million or 7.2 percent. The decrease drivers are primarily attributable to: (1) a delay in the regulatory process related to FERC operating license renewals for the McCloud-Pit license and the Rock Creek-Cresta license; (2) PG&E's decision to surrender the Potter Valley license rather than continue through the relicensing process which reduced licensing costs; and (3) less work scheduled in 2021 for spillway work due to the refinement of project scope and schedule.

**4. Customer Care**

Expense: Customer Care's total recorded expenses in 2021 were above imputed adopted values by $52 million or 18.2 percent. For safety, reliability, and maintenance work, 2021 recorded expenses were above imputed adopted values by $15.5 million or 9.6 percent. The increases were primarily attributable to: (1) PSPS planning and readiness activities recorded to the WMBA and WMPMA; (2) Increased customer demand for non-tariffed products and services; and (3) Marketing and Communications' recorded costs to the WMPMA for PSPS and wildfire customer communications are now reflected in Customer Care since Marketing and Communications was reorganized from Corporate Services to Customer Care in 2021.

Capital: Customer Care's total 2021 recorded capital expenditures exceeded imputed adopted values by $37.4 million or 26.2 percent. For safety, reliability, and maintenance work, 2021 recorded capital expenditures were above imputed adopted values by $3.4 million or 2.6 percent. The increase in spending is primarily attributable to Customer Care technology projects and materials costs related to the corrective maintenance of gas modules.

**5. Shared Services/IT**

Expense: Shared Services and IT's total recorded expenses in 2021 were below imputed adopted values by $44.5 million or 8 percent. The decrease was primarily attributable to a change in IT's overhead allocation cost pool which did not impact safety, reliability or maintenance. The underspend above is partially offset by overspend in Transportation Services on Fleet Maintenance support for Electric and Gas Distribution and Security on physical controls that improved or maintained safety, reliability or maintenance, e.g., enterprise guard services, corporate security support, and an increase in security investigations.

Capital: Shared Services and IT's total 2021 recorded capital expenditures exceeded imputed adopted by $267.4 million or 61.6 percent. The increase was primarily attributable to an increase in CRESS investments to prepare the new Oakland Headquarters for ownership and occupancy starting in April 2022. These activities included Seismic Safety, Tenant Improvements, Furniture, and IT Infrastructure and Security upgrades. Other major expenditures included purchasing the Fairfield Data Center building and property as a strategic investment to reduce Operating Expenses (lease costs); and project delivery costs for the Sacramento Area – T-Line Fabrication Shop which increased from the prior GRC forecast as a result of supply chain issues that caused an unplanned increase in material expenditures. 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 telecom network infrastructure, data center infrastructure and supporting systems, and end-user devices.

**6. Corporate Services**

The Corporate Services total expenses do not include any safety, reliability, or maintenance work as defined in D.19-04-020.[11] Therefore, no additional information is provided for this organization. However, Marketing and Communications recorded costs in 2021 to the WMPMA associated

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

with PSPS and wildfire customer communications. Marketing and Communications was reorganized from Corporate Services to Customer Care in 2021 so its 2021 recorded costs are now reflected in Customer Care.

**7. Human Resources**

Expense: Human Resources total recorded expenses in 2021 were below imputed adopted values by $0.9 million or 1.1 percent. For safety, reliability, and maintenance work within PG&E Academy, 2021 recorded expenses were above imputed adopted values by $4.3 million or 12 percent. The majority of the increase is due to Electric and Gas Curriculum Development and Training Delivery.[12]

Capital: Human Resources total 2021 recorded capital expenditures were below imputed adopted values by $1.8 million or 51.9 percent. The majority of the underspend is related to IT projects.

[12] PG&E Academy expenditures include amounts recorded in the Wildfire Mitigation Balancing Account.

# PACIFIC GAS AND ELECTRIC COMPANY

# SECTION 2

# GAS DISTRIBUTION

# IMPUTED ADOPTED VS. RECORDED COMPARISON

PACIFIC GAS AND ELECTRIC COMPANY
SECTION 2
GAS DISTRIBUTION
IMPUTED ADOPTED VS. RECORDED COMPARISON

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# PACIFIC GAS AND ELECTRIC COMPANY
# SECTION 2
# GAS DISTRIBUTION
# 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 2021 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 2021 imputed adopted spend vs. actual spend comparison details, Maintenance Activity Type (MAT) descriptions, and variance explanations. In addition, per Decision 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 2021 EXPENSE COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) |
|---|---|---|---|---|---|
| 1 | Support | AB | 17,700.0 | 1,114.8 | (16,585.2) |
| 2 | Provide Field Service | DD | 44,902.5 | 48,130.7 | 3,228.2 |
| 3 | Leak Survey | DE | 25,002.3 | 33,348.1 | 8,345.8 |
| 4 | Locate and Mark | DF | 45,210.9 | 40,672.5 | (4,538.3) |
| 5 | Cathodic Protection | DG | 20,726.7 | 21,093.0 | 366.3 |
| 6 | Curriculum Development/Gas Qualifications | DN | 4,901.2 | 780.6 | (4,120.6) |
| 7 | Meter Protection | EX | 8,452.1 | 7,555.5 | (896.6) |
| 8 | Operate Gas Distribution System | FG | 9,246.1 | 8,693.2 | (552.9) |
| 9 | Gas Preventive Maintenance | FH | 23,110.7 | 24,458.6 | 1,347.9 |
| 10 | Gas Corrective Maintenance | FI/LW [(a)] | 61,968.4 | 94,324.7 | 32,356.3 |
| 11 | Gas Mapping | GF | 4,399.8 | 4,559.6 | 159.8 |
| 12 | Gas Distribution Planning & Operations Engineering | GG | 6,456.4 | 8,464.2 | 2,007.9 |
| 13 | Natural Gas Fueling Facilities Operation and Maintenance (O&M) | GM | 3,870.0 | 3,529.5 | (340.4) |
| 14 | Gas Research, Development, and Demonstration | GZ | 3,487.7 | 3,581.3 | 93.6 |
| 15 | Gas Meter Maintenance | HY | 1,868.7 | 2,543.4 | 674.8 |
| 16 | Gas Distribution Integrity Management Program (DIMP) | JQ | 42,526.3 | 34,358.9 | (8,167.4) |
| 17 | Information Technology | JV | 12,853.1 | 9,318.9 | (3,534.1) |
| 18 | Gas Expense Work at the Request of Others (WRO) | LK | 6,129.2 | 6,758.4 | 629.2 |
| 19 | Operational Management | OM | 17,529.5 | 16,206.0 | (1,323.5) |
| 20 | Operational Support | OS | 18,986.3 | 30,052.7 | 11,066.4 |
| **21** | **Total [(b)]** | | **379,327.8** | **399,549.7** | **20,221.9** |

(a) In 2021, approximately $114.8 under Leak Abatement MWC LW was realigned to MWC FI as a result of a correction to the 2020 recorded data.

(b) In addition to the MWCs listed above, approximately $4.9 was recorded in MWC BC in 2021.

**TABLE 2-2**
**GAS DISTRIBUTION 2021 CAPITAL COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs [(a)] (B) | 2021 Cost Difference (B-A) |
|---|---|---|---|---|---|
| 1 | Tools and Equipment | 05 | 3,415.8 | 14,704.1 | 11,288.3 |
| 2 | Gas Pipeline Replacement Program | 14 | 528,982.5 | 571,710.9 | 42,728.4 |
| 3 | Miscellaneous Capital | 21 | 0.0 | (299.6) | (299.6) |
| 4 | Gas Meter Protection | 27 | 17,263.0 | 2,915.2 | (14,347.8) |
| 5 | Gas Distribution Customer Connects | 29 | 88,189.7 | 96,327.7 | 8,138.0 |
| 6 | Build IT Applications & Infrastructure | 2F | 11,455.3 | 17,423.8 | 5,968.5 |
| 7 | High Pressure Regulator (HPR) Program | 2K | 60,424.9 | 61,010.9 | 586.1 |
| 8 | NGV - Station Infrastructure | 31 | 4,163.0 | 6,957.1 | 2,794.1 |
| 9 | Gas Distribution Capacity | 47 | 39,835.1 | 45,313.7 | 5,478.6 |
| 10 | Gas Distribution Control Operations Assets | 4A | 30,460.9 | 30,336.7 | (124.2) |
| 11 | Gas Distribution Reliability | 50/3P | 235,934.7 | 292,430.3 | 56,495.6 |
| 12 | Gas Capital WRO | 51 | 79,033.6 | 78,299.6 | (734.0) |
| 13 | Gas Distribution Emergency Response | 52 | 902.0 | 2,868.5 | 1,966.5 |
| 14 | Install New Gas Meters | 74 | 1,984.5 | 5,913.6 | 3,929.1 |
| 15 | Manage Buildings | 78 | 0.0 | 7.2 | 7.2 |
| **16** | **Total** | | **1,102,045.0** | **1,224,647.8** | **122,602.9** |

(a) Approximately $(1,271.8) under MWC 12 was realigned to Gas Transmission as a result of a correction to the 2021 recorded data.

## 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 (SCV),[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 Pacific Gas and Electric Company (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.

**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

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[1] 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).

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 – Curriculum Development/Gas Qualifications** – The Gas Qualifications program creates new and revises existing training materials ensuring that the Gas Operations (GO) workforce is competent, safe, and

qualified and includes costs associated with field employee operator qualifications. It does not include curriculum development, 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** – 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 Meter Protection Program (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 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 (AC) 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 CNG fueling facilities. PG&E operates Natural Gas Vehicles (NGV) and has thousands of 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 natural gas fueling facilities.

**MWC GZ – Gas Research, Development, and Demonstration** – 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 cubic feet per hour (cfh) 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 General Rate Case (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)** – 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. One example is Investment Planning that supports the LOB.

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 Pipe 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 because copper services were determined to have a similar relative risk as compared to GPRP pipe. Subsequently, plastic pipe replacement was included in MWC 14 because of an 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.

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, 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 Capital WRO** – Includes relocating gas distribution main 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 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 inches 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., 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 GO.

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 – High Pressure Regulator (HPR) Program** – Includes the replacement of gas 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 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 as well as 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 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 Services: Other | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 0.0 | 161.1 | 161.1 | 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 | 12,897.7 | 10,112.6 | (2,785.1) | -21.6% | 177,773 | 119,293 | (58,480) | -32.9% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units due to a reduction in customer demand. |
| 3 | DD | Provide Field Service | DDE | Appliance Adjs | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 988.5 | 969.9 | (18.6) | -1.9% | 12,947 | 10,230 | (2,717) | -21.0% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units due to a reduction in customer demand. |
| 4 | DD | Provide Field Service | DDF | Gas Fumigation Activity | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 3,039.4 | 3,191.1 | 151.6 | 5.0% | 37,538 | 30,743 | (6,795) | -18.1% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 5 | DD | Provide Field Service | DDG | Gas Leaks & Emergencies | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 18,119.4 | 27,108.2 | 8,988.8 | 49.6% | 166,790 | 133,412 | (33,378) | -20.0% | NO | YES | YES | Program expenses exceeded imputed regulatory values due to an accounting change that began recording immediate response (IR) standby time to orders directly under this MAT. Previously these charges were allocated across multiple MATs. | Actual units were lower than imputed units due to a reduction in customer demand. |
| 6 | DD | Provide Field Service | DDK | Gas Start | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 5,361.9 | 3,726.5 | (1,635.4) | -30.5% | 55,581 | 33,131 | (22,450) | -40.4% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units due to a reduction in customer demand. |
| 7 | DD | Provide Field Service | DDL | Gas Stop | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 4,495.6 | 2,861.3 | (1,634.3) | -36.4% | 97,018 | 42,702 | (54,316) | -56.0% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units due to a reduction in customer demand. In addition, a moratorium was in place in 2021 on Gas Shut Offs for no payments. |
| 8 | DE | Leak Survey | DEA | Leak Survey | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 7,926.3 | 8,880.4 | 954.0 | 12.0% | 543,301 | 421,715 | (121,586) | -22.4% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units as result of MAT DEA units shifting over to MAT DEF in an effort to utilize advanced mobile leak detection technology with Picarro. In addition, when an annual leak survey was scheduled in the same month as a scheduled three-year comprehensive survey, those MAT DEA units were captured as part of MAT DEF. |
| 9 | DE | Leak Survey | DEA | Leak Survey | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 7,926.3 | 8,880.4 | 954.0 | 12.0% | 543,301 | 421,715 | (121,586) | -22.4% | N/A | N/A | N/A | N/A | N/A |
| 10 | DE | Leak Survey | DEA | Leak Survey | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 7,926.3 | 8,880.4 | 954.0 | 12.0% | 543,301 | 421,715 | (121,586) | -22.4% | N/A | N/A | N/A | N/A | N/A |
| 11 | DE | Leak Survey | DEB | Special Leak Survey | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 5,902.2 | 2,361.2 | (3,541.0) | -60.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 12 | DE | Leak Survey | DEB | Special Leak Survey | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 5,902.2 | 2,361.2 | (3,541.0) | -60.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 13 | DE | Leak Survey | DEB | Special Leak Survey | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 5,902.2 | 2,361.2 | (3,541.0) | -60.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 14 | DE | Leak Survey | DEC | Leak Downgrade No Repair | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 2,081.3 | 3,445.1 | 1,363.8 | 65.5% | 6,951 | 8,999 | 2,048 | 29.5% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to the adoption of Leak Abatement Best Practice (BP) 21 which states that Utilities shall repair leaks as soon as reasonably possible after discovery, but in no event, more than three years after discovery. Utilities may make reasonable exceptions for leaks that are costly to repair relative to the estimated size of the leak. 2,000 grade below ground three leaks were scheduled for repair in 2021 in the leak repair MATs, however, when Grade 3 leaks are found, they have a very small percentage of gas and are subject to downgrade with no repair. As a result, a number of additional units were recorded in this MAT. |
| 15 | DE | Leak Survey | DEC | Leak Downgrade No Repair | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 2,081.3 | 3,445.1 | 1,363.8 | 65.5% | 6,951 | 8,999 | 2,048 | 29.5% | N/A | N/A | N/A | N/A | N/A |
| 16 | DE | Leak Survey | DEC | Leak Downgrade No Repair | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 2,081.3 | 3,445.1 | 1,363.8 | 65.5% | 6,951 | 8,999 | 2,048 | 29.5% | N/A | N/A | N/A | N/A | N/A |
| 17 | DE | Leak Survey | DED | Leak Rechecks | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 1,588.4 | 1,422.0 | (166.4) | -10.5% | 21,430 | 36,552 | 15,122 | 70.6% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to: 1) an IT enhancement introduced to make leak rechecks viewable and workable electronically. This allowed leak surveyors to recheck a leak anytime they were in the area without being dependant on a printed map, allowing work bundling for efficiency, and 2) a process improvement and increased focus on procedure adherance from the Leak Cancelation Desk. This team added a leak repair location photo review to their review protocol to ensure the subsequent recheck was perfomed at the right location, yieldeding an additional 1,118 rechecks. |

# TABLE 2-3
# GAS DISTRIBUTION 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | DE | Leak Survey | DED | Leak Rechecks | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 1,588.4 | 1,422.0 | (166.4) | -10.5% | 21,430 | 36,552 | 15,122 | 70.6% | N/A | N/A | N/A | N/A | N/A |
| 19 | DE | Leak Survey | DED | Leak Rechecks | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 1,588.4 | 1,422.0 | (166.4) | -10.5% | 21,430 | 36,552 | 15,122 | 70.6% | N/A | N/A | N/A | N/A | N/A |
| 20 | DE | Leak Survey | DEE | Customer Calls | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 557.5 | 276.2 | (281.3) | -50.5% | 3,624 | 3,766 | 142 | 3.9% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 21 | DE | Leak Survey | DEE | Customer Calls | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 557.5 | 276.2 | (281.3) | -50.5% | 3,624 | 3,766 | 142 | 3.9% | N/A | N/A | N/A | N/A | N/A |
| 22 | DE | Leak Survey | DEE | Customer Calls | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 557.5 | 276.2 | (281.3) | -50.5% | 3,624 | 3,766 | 142 | 3.9% | N/A | N/A | N/A | N/A | N/A |
| 23 | DE | Leak Survey | DEF | Picarro Leak Survey | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 6,215.5 | 11,541.9 | 5,326.3 | 85.7% | 663,997 | 947,602 | 283,605 | 42.7% | NO | YES | YES | Program expenses exceeded imputed regulatory values due to anticipated efficiencies included in the 2020 GRC that did not materialize. | Actual units were higher than imputed units due to more leak surveys completed using Picarro technology based on the compliance leak survey plan. See MAT DEA explanation above. |
| 24 | DE | Leak Survey | DEF | Picarro Leak Survey | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 6,215.5 | 11,541.9 | 5,326.3 | 85.7% | 663,997 | 947,602 | 283,605 | 42.7% | N/A | N/A | N/A | N/A | N/A |
| 25 | DE | Leak Survey | DEF | Picarro Leak Survey | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 6,215.5 | 11,541.9 | 5,326.3 | 85.7% | 663,997 | 947,602 | 283,605 | 42.7% | N/A | N/A | N/A | N/A | N/A |
| 26 | DE | Leak Survey | DEG | Picarro Special Survey | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 1.6 | 0.0 | (1.6) | -100.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 27 | DE | Leak Survey | DEG | Picarro Special Survey | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 1.6 | 0.0 | (1.6) | -100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 28 | DE | Leak Survey | DEG | Picarro Special Survey | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 1.6 | 0.0 | (1.6) | -100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 29 | DE | Leak Survey | DEH | Gas Capacity Uprates | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 0.0 | 2,596.5 | 2,596.5 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 30 | DE | Leak Survey | DE# | Leak Survey Support | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 729.5 | 2,824.9 | 2,095.4 | 287.2% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 31 | DF | Locate and Mark | DFA | Locate and Mark | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 42,463.1 | 38,099.3 | (4,363.8) | -10.3% | 722,584 | 608,866 | (113,718) | -15.7% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 32 | DF | Locate and Mark | DFA | Locate and Mark | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C5 – Locate & Mark | Exhibit (PG&E-3), Chapter 6 | 42,463.1 | 38,099.3 | (4,363.8) | -10.3% | 722,584 | 608,866 | (113,718) | -15.7% | N/A | N/A | N/A | N/A | N/A |
| 33 | DF | Locate and Mark | DFB | Locate and Mark - Standby | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 1,805.3 | 560.3 | (1,245.0) | -69.0% | 3,919 | 682 | (3,237) | -82.6% | NO | NO | YES | Below variance threshold. | Program recorded units were less than imputed units due to Gas Resource Specialists performing quality field observations to further reduce and/or eliminate standbys for work that is not in conflict with PG&E's critical facilities. In addition, the new Ticket Management System (Locate App) continued to enhance the onsite Field Meet criteria for locators in the field by adding additional questions to ask excavators while onsite. The added criteria enable better onsite Field Meetings to occur with excavators; thus, improving the ability to relocate excavations away from critical facilities to further reduce the need for standbys. In addition, PG&E experienced a lower demand for standbys in 2021. |
| 34 | DF | Locate and Mark | DFB | Locate and Mark - Standby | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C5 – Locate & Mark | Exhibit (PG&E-3), Chapter 6 | 1,805.3 | 560.3 | (1,245.0) | -69.0% | 3,919 | 682 | (3,237) | -82.6% | N/A | N/A | N/A | N/A | N/A |
| 35 | DF | Locate and Mark | DF# | Locate and Mark, Other | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 942.5 | 2,012.9 | 1,070.4 | 113.6% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 36 | DG | Cathodic Protection | DGA | Cathodic Protection - Monitoring | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 2,845.1 | 4,301.6 | 1,456.6 | 51.2% | 76,818 | 89,706 | 12,888 | 16.8% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 37 | DG | Cathodic Protection | DGA | Cathodic Protection - Monitoring | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C2 – Corrosion Control | Exhibit (PG&E-3), Chapter 7 | 2,845.1 | 4,301.6 | 1,456.6 | 51.2% | 76,818 | 89,706 | 12,888 | 16.8% | N/A | N/A | N/A | N/A | N/A |

# TABLE 2-3
# GAS DISTRIBUTION 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | DG | Cathodic Protection | DGB | Cathodic Protection - Troubleshoot | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 4,367.8 | 4,843.7 | 475.9 | 10.9% | 6,000 | 10,976 | 4,976 | 82.9% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to findings of the Enhanced Cathodic Protection Survey Program (MAT DGD) and the Electrically Connected Isolated Steel Program (MAT DGE) that required troubleshooting. This is a workstream with regulatory compliance requirements. |
| 39 | DG | Cathodic Protection | DGB | Cathodic Protection - Troubleshoot | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C2 – Corrosion Control | Exhibit (PG&E-3), Chapter 7 | 4,367.8 | 4,843.7 | 475.9 | 10.9% | 6,000 | 10,976 | 4,976 | 82.9% | N/A | N/A | N/A | N/A | N/A |
| 40 | DG | Cathodic Protection | DGC | Cathodic Protection - Rectifier Maintenance | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 487.0 | 661.1 | 174.1 | 35.7% | 3,953 | 4,119 | 166 | 4.2% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 41 | DG | Cathodic Protection | DGC | Cathodic Protection - Rectifier Maintenance | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C2 – Corrosion Control | Exhibit (PG&E-3), Chapter 7 | 487.0 | 661.1 | 174.1 | 35.7% | 3,953 | 4,119 | 166 | 4.2% | N/A | N/A | N/A | N/A | N/A |
| 42 | DG | Cathodic Protection | DGD [a] | Cathodic Protection - Enhanced Survey | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 6,440.1 | 5,585.5 | (854.6) | -13.3% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 43 | DG | Cathodic Protection | DGD [a] | Cathodic Protection - Enhanced Survey | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | M3 – Enhanced CP Survey and Unprotected Main Evaluation | Exhibit (PG&E-3), Chapter 7 | 6,440.1 | 5,585.5 | (854.6) | -13.3% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 44 | DG | Cathodic Protection | DGE [b] | Electrically Connected Isolated Steel (EC-ISSP) | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 2,827.3 | 4,087.7 | 1,260.5 | 44.6% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 45 | DG | Cathodic Protection | DGE [b] | EC-ISSP | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | M4 - EC-ISSP | Exhibit (PG&E-3), Chapter 7 | 2,827.3 | 4,087.7 | 1,260.5 | 44.6% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 46 | DG | Cathodic Protection | DGG | Install Casing Test Stations | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 808.3 | 1,186.1 | 377.7 | 46.7% | 360 | 29 | (331) | -91.9% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units due to an increase in realized unit cost for the Casing Test Station program. The increased costs were driven by the need to utilize contractors for this work and higher construction costs driven by municipalities not allowing installation of test stations within roadways (using lower cost keyhole methods). |
| 47 | DG | Cathodic Protection | DGH | Casing Short Mitigations Less Than 100 Feet | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 2,944.6 | 427.3 | (2,517.3) | -85.5% | 83 | 1 | (82) | -98.8% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units due to the decision to prioritize capital casing mitigation (greater than 100 feet) over expense casing migitation (less than 100 feet). The prioritization was made in 2020 and was based on the following: 1) mitigation of longer casings provides a greater per unit risk reduction to the gas distribution system; 2) the find rate of contacted expense casings (less than 100 feet) was lower than forecast; and 3) a shortage of work crews due to the COVID-19 pandemic. |
| 48 | DG | Cathodic Protection | DGI | Casing Monitoring Without Lead | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 6.5 | 0.0 | (6.5) | -100.0% | 32 | 2 | (30) | -93.8% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units as PG&E transitioned this type of specialized testing to routine work performed by Corrosion Mechanics under MAT DGA (Cathodic Protection Monitoring) in 2021. |
| 49 | EX | Meter Protection | EXA | MPP Inspections | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 0.2 | 0.0 | (0.2) | -100.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 50 | EX | Meter Protection | EXB | MPP Protections | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 8,427.6 | 7,555.5 | (872.0) | -10.3% | 9,079 | 9,192 | 113 | 1% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 51 | EX | Meter Protection | EXC | MPP - Service Valves | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 24.3 | 0.0 | (24.3) | -100% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 52 | 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 | 7,910.5 | 7,661.7 | (248.8) | -3.1% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 53 | FG | Operate Gas Distribution System | FGB | Operate Distribution Mains and Services | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 1,083.1 | 829.0 | (254.1) | -23.5% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 54 | FG | Operate Gas Distribution System | FGC | Operate Distribution Regulator General | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 252.5 | 202.5 | (50.0) | -19.8% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 55 | FH | Gas Preventive Maintenance | FHA | Preventative Maintenance, Mains | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 1,234.6 | 1,153.0 | (81.6) | -6.6% | 265 | 414 | 149 | 56.2% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to additional volume of work identified in 2021. |
| 56 | FH | Gas Preventive Maintenance | FHA | Preventative Maintenance, Mains | Measurement and Control Failure - Release of Gas with Ignition Downstream | C3 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 1,234.6 | 1,153.0 | (81.6) | -6.6% | 265 | 414 | 149 | 56.2% | N/A | N/A | N/A | N/A | N/A |
| 57 | FH | Gas Preventive Maintenance | FHA | Preventative Maintenance, Mains | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C6 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 1,234.6 | 1,153.0 | (81.6) | -6.6% | 265 | 414 | 149 | 56.2% | N/A | N/A | N/A | N/A | N/A |
| 58 | FH | Gas Preventive Maintenance | FHA | Preventative Maintenance, Mains | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C7 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 1,234.6 | 1,153.0 | (81.6) | -6.6% | 265 | 414 | 149 | 56.2% | N/A | N/A | N/A | N/A | N/A |

# TABLE 2-3
# GAS DISTRIBUTION 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 59 | FH | Gas Preventive Maintenance | FHB [c] | Preventative Maintenance, Regulator Station | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 3,329.5 | 4,056.2 | 726.7 | 21.8% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 60 | FH | Gas Preventive Maintenance | FHB [c] | Preventative Maintenance, Regulator Station | Measurement and Control Failure - Release of Gas with Ignition Downstream | C3 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 3,329.5 | 4,056.2 | 726.7 | 21.8% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 61 | FH | Gas Preventive Maintenance | FHB [c] | Preventative Maintenance, Regulator Station | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C6 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 3,329.5 | 4,056.2 | 726.7 | 21.8% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 62 | FH | Gas Preventive Maintenance | FHB [c] | Preventative Maintenance, Regulator Station | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C7 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 3,329.5 | 4,056.2 | 726.7 | 21.8% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 63 | FH | Gas Preventive Maintenance | FHC [c] | Preventative Maintenance, Farm Tap | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 261.2 | 228.2 | (33.0) | -12.6% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 64 | FH | Gas Preventive Maintenance | FHC [c] | Preventative Maintenance, Farm Tap | Measurement and Control Failure - Release of Gas with Ignition Downstream | C3 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 261.2 | 228.2 | (33.0) | -12.6% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 65 | FH | Gas Preventive Maintenance | FHC [c] | Preventative Maintenance, Farm Tap | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C6 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 261.2 | 228.2 | (33.0) | -12.6% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 66 | FH | Gas Preventive Maintenance | FHC [c] | Preventative Maintenance, Farm Tap | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C7 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 261.2 | 228.2 | (33.0) | -12.6% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 67 | FH | Gas Preventive Maintenance | FHE | Preventative Maintenance, Services | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 3,787.2 | 4,101.6 | 314.5 | 8.3% | 2,458 | 2,540 | 82 | 3.3% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 68 | FH | Gas Preventive Maintenance | FHE | Preventative Maintenance, Services | Measurement and Control Failure - Release of Gas with Ignition Downstream | C3 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 3,787.2 | 4,101.6 | 314.5 | 8.3% | 2,458 | 2,540 | 82 | 3.3% | N/A | N/A | N/A | N/A | N/A |
| 69 | FH | Gas Preventive Maintenance | FHE | Preventative Maintenance, Services | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C6 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 3,787.2 | 4,101.6 | 314.5 | 8.3% | 2,458 | 2,540 | 82 | 3.3% | N/A | N/A | N/A | N/A | N/A |
| 70 | FH | Gas Preventive Maintenance | FHE | Preventative Maintenance, Services | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C7 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 3,787.2 | 4,101.6 | 314.5 | 8.3% | 2,458 | 2,540 | 82 | 3.3% | N/A | N/A | N/A | N/A | N/A |
| 71 | FH | Gas Preventive Maintenance | FHG [c] | Preventative Maintenance, Valves | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 1,737.4 | 1,578.2 | (159.2) | -9.2% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 72 | FH | Gas Preventive Maintenance | FHG [c] | Preventative Maintenance, Valves | Measurement and Control Failure - Release of Gas with Ignition Downstream | C3 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 1,737.4 | 1,578.2 | (159.2) | -9.2% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 73 | FH | Gas Preventive Maintenance | FHG [c] | Preventative Maintenance, Valves | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C6 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 1,737.4 | 1,578.2 | (159.2) | -9.2% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 74 | FH | Gas Preventive Maintenance | FHG [c] | Preventative Maintenance, Valves | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C7 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 1,737.4 | 1,578.2 | (159.2) | -9.2% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 75 | FH | Gas Preventive Maintenance | FHI | Corrective Maintenance, Service Valves | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 2,300.5 | 1,740.8 | (559.7) | -24.3% | 18,417 | 24,340 | 5,923 | 32.2% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to more units completed by Field Service than planned on top of the units completed by Maintenance and Construction (M&C). |
| 76 | FH | Gas Preventive Maintenance | FHI | Corrective Maintenance, Service Valves | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 2,300.5 | 1,740.8 | (559.7) | -24.3% | 18,417 | 24,340 | 5,923 | 32.2% | N/A | N/A | N/A | N/A | N/A |
| 77 | FH | Gas Preventive Maintenance | FHI | Corrective Maintenance, Service Valves | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 2,300.5 | 1,740.8 | (559.7) | -24.3% | 18,417.0 | 24,340.0 | 5,923.0 | 32.2% | N/A | N/A | N/A | N/A | N/A |
| 78 | FH | Gas Preventive Maintenance | FHI | Corrective Maintenance, Service Valves | Measurement and Control Failure - Release of Gas with Ignition Downstream | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 2,300.5 | 1,740.8 | (559.7) | -24.3% | 18,417.0 | 24,340.0 | 5,923.0 | 32.2% | N/A | N/A | N/A | N/A | N/A |
| 79 | FH | Gas Preventive Maintenance | FHJ | Gas Non-Recurring Projects | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 2,938.6 | 2,294.2 | (644.5) | -21.9% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 80 | FH | Gas Preventive Maintenance | FHK | Atmospheric Corrosion Monitoring | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 1,064.2 | 146.2 | (918.0) | -86.3% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 81 | FH | Gas Preventive Maintenance | FHL | Atmospheric Corrosion Main Repairs | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 252.0 | 1,023.3 | 771.3 | 306.1% | 100 | 81 | (19) | -19.0% | NO | NO | NO | Below variance threshold. | Below variance threshold. |

# TABLE 2-3
# GAS DISTRIBUTION 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 82 | FH | Gas Preventive Maintenance | FHM | Atmospheric Corrosion Service Repairs | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 412.2 | 3,997.1 | 3,585.0 | 869.8% | 550 | 25,947 | 25,397 | 4617.6% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to PG&E's implementation of PHMSA guidance on atmospheric corrosion control of metallic piping in soil interface areas (i.e. risers). Distribution meter set risers are now managed in the same manner as the balance of transmission and distribution risers, resulting in the need to mitigate riser wrap damage identified during inspections. Implementation of this guidance is driving the additional mitigation units. |
| 83 | FH | Gas Preventive Maintenance | FHN | Atmospheric Corrosion Regulator Station Repair | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 594.0 | 1,077.0 | 483.0 | 81.3% | 34 | 45 | 11 | 32.4% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to find rates during atmospheric corrosion inspections. This is a compliance workstream. |
| 84 | FH | Gas Preventive Maintenance | FHO[(c)] | SCADA Preventative Maintenance | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 427.8 | 991.2 | 563.5 | 131.7% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 85 | FH | Gas Preventive Maintenance | FHO[(c)] | SCADA Preventative Maintenance | Measurement and Control Failure - Release of Gas with Ignition Downstream | C3 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 427.8 | 991.2 | 563.5 | 131.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 86 | FH | Gas Preventive Maintenance | FHO[(c)] | SCADA Preventative Maintenance | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C6 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 427.8 | 991.2 | 563.5 | 131.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 87 | FH | Gas Preventive Maintenance | FHO[(c)] | SCADA Preventative Maintenance | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C7 – Preventative Maintenance | Exhibit (PG&E-3), Chapter 6 | 427.8 | 991.2 | 563.5 | 131.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 88 | FH | Gas Preventive Maintenance | FHP[(c)] | SCADA Corrective Maintenance | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 341.5 | 708.5 | 367.0 | 107.5% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 89 | FH | Gas Preventive Maintenance | FHP[(c)] | SCADA Corrective Maintenance | Measurement and Control Failure - Release of Gas with Ignition Downstream | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 341.5 | 708.5 | 367.0 | 107.5% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 90 | FH | Gas Preventive Maintenance | FHP[(c)] | SCADA Corrective Maintenance | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 341.5 | 708.5 | 367.0 | 107.5% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 91 | FH | Gas Preventive Maintenance | FHP[(c)] | SCADA Corrective Maintenance | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 341.5 | 708.5 | 367.0 | 107.5% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 92 | FH | Gas Preventive Maintenance | FHQ | GD Overpressure Protection Enhancements | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 5 | 3,250.2 | 714.7 | (2,535.6) | -78.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 93 | FH | Gas Preventive Maintenance | FHQ | GD Overpressure Protection Enhancements | Measurement and Control Failure - Release of Gas with Ignition Downstream | M4 – Station OPP Enhancements | Exhibit (PG&E-3), Chapter 5 | 3,250.2 | 714.7 | (2,535.6) | -78.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 94 | FH | Gas Preventive Maintenance | FHR | Distribution Pipeline Markers | SRM Total (Non RAMP) | SRM Total (Non RAMP) | N/A | 0.0 | 262.4 | 262.4 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 95 | FH | Gas Preventive Maintenance | FH# | Preventative Maintenance, Other | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 1,179.9 | 385.9 | (794.0) | -67.3% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 96 | FI | Gas Corrective Maintenance | FIB[(c)] | Corrective Maintenance, Regulator Station | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 4,675.6 | 2,706.7 | (1,968.9) | -42.1% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 97 | FI | Gas Corrective Maintenance | FIB[(c)] | Corrective Maintenance, Regulator Station | Measurement and Control Failure - Release of Gas with Ignition Downstream | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 4,675.6 | 2,706.7 | (1,968.9) | -42.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 98 | FI | Gas Corrective Maintenance | FIB[(c)] | Corrective Maintenance, Regulator Station | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 4,675.6 | 2,706.7 | (1,968.9) | -42.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 99 | FI | Gas Corrective Maintenance | FIB[(c)] | Corrective Maintenance, Regulator Station | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 4,675.6 | 2,706.7 | (1,968.9) | -42.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 100 | FI | Gas Corrective Maintenance | FIC[(c)] | Corrective Maintenance, Farm Tap | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 168.4 | 402.7 | 234.3 | 139.1% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 101 | FI | Gas Corrective Maintenance | FIC[(c)] | Corrective Maintenance, Farm Tap | Measurement and Control Failure - Release of Gas with Ignition Downstream | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 168.4 | 402.7 | 234.3 | 139.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 102 | FI | Gas Corrective Maintenance | FIC[(c)] | Corrective Maintenance, Farm Tap | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 168.4 | 402.7 | 234.3 | 139.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 103 | FI | Gas Corrective Maintenance | FIC[(c)] | Corrective Maintenance, Farm Tap | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 168.4 | 402.7 | 234.3 | 139.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 104 | FI | Gas Corrective Maintenance | FIF[(c)] | Corrective Maintenance, Farm Tap | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 608.3 | 458.0 | (150.3) | -24.7% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |

# TABLE 2-3
# GAS DISTRIBUTION 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | FI | Gas Corrective Maintenance | FIF[c] | Corrective Maintenance, Farm Tap | Measurement and Control Failure - Release of Gas with Ignition Downstream | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 608.3 | 458.0 | (150.3) | -24.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 106 | FI | Gas Corrective Maintenance | FIF[c] | Corrective Maintenance, Farm Tap | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 608.3 | 458.0 | (150.3) | -24.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 107 | FI | Gas Corrective Maintenance | FIF[c] | Corrective Maintenance, Farm Tap | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 6 | 608.3 | 458.0 | (150.3) | -24.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 108 | FI | Gas Corrective Maintenance | FIG/LWG[d] | Corrective Maintenance Main Leak | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 20,331.3 | 33,469.4 | 13,138.1 | 64.6% | 3,059 | 3,719 | 660 | 21.6% | YES | YES | YES | Program costs exceeded imputed regulatory values because of increased unit costs and because more units were completed. Unit costs were higher due to increases in labor, paving, permitting, and traffic control costs. | Actual units were higher than imputed units due to higher leak find rates for main leak repairs. |
| 109 | FI | Gas Corrective Maintenance | FIG/LWG[d] | Corrective Maintenance Main Leak | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 20,331.3 | 33,469.4 | 13,138.1 | 64.6% | 3,059 | 3,719 | 660 | 21.6% | N/A | N/A | N/A | N/A | N/A |
| 110 | FI | Gas Corrective Maintenance | FIG/LWG[d] | Corrective Maintenance Main Leak | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 20,331.3 | 33,469.4 | 13,138.1 | 64.6% | 3,059 | 3,719 | 660 | 21.6% | N/A | N/A | N/A | N/A | N/A |
| 111 | FI | Gas Corrective Maintenance | FIH | Corrective Maintenance Service Leak, Above Ground | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 5,879.4 | 3,234.1 | (2,645.3) | -45.0% | 25,087 | 6,147 | (18,940) | -75.5% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed 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. |
| 112 | FI | Gas Corrective Maintenance | FIH | Corrective Maintenance Service Leak, Above Ground | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 5,879.4 | 3,234.1 | (2,645.3) | -45.0% | 25,087 | 6,147 | (18,940) | -75.5% | N/A | N/A | N/A | N/A | N/A |
| 113 | FI | Gas Corrective Maintenance | FIH | Corrective Maintenance Service Leak, Above Ground | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 5,879.4 | 3,234.1 | (2,645.3) | -45.0% | 25,087 | 6,147 | (18,940) | -75.5% | N/A | N/A | N/A | N/A | N/A |
| 114 | FI | Gas Corrective Maintenance | FII | Corrective Maintenance Cathodic Protection | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 3,024.0 | 7,721.5 | 4,697.4 | 155.3% | 1,701 | 3,812 | 2,111 | 124.1% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to findings of the Enhanced Cathodic Protection Survey Program (MAT DGD) and the Electrically Connected Isolated Steel Program (MAT DGE) that required troubleshooting. This is a workstream with regulatory compliance requirements. |
| 115 | FI | Gas Corrective Maintenance | FIJ | Corrective Maintenance Main Dig-in | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 950.8 | 1,202.5 | 251.7 | 26.5% | 255 | 211 | (44) | -17.3% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 116 | FI | Gas Corrective Maintenance | FIJ | Corrective Maintenance Main Dig-in | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 950.8 | 1,202.5 | 251.7 | 26.5% | 255 | 211 | (44) | -17.3% | N/A | N/A | N/A | N/A | N/A |
| 117 | FI | Gas Corrective Maintenance | FIJ | Corrective Maintenance Main Dig-in | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 950.8 | 1,202.5 | 251.7 | 26.5% | 255 | 211 | (44) | -17.3% | N/A | N/A | N/A | N/A | N/A |
| 118 | FI | Gas Corrective Maintenance | FIK | Corrective Maintenance Service Dig-in | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 578.1 | 1,629.3 | 1,051.2 | 181.8% | 1,504 | 1,569 | 65 | 4.3% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 119 | FI | Gas Corrective Maintenance | FIK | Corrective Maintenance Service Dig-in | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 578.1 | 1,629.3 | 1,051.2 | 181.8% | 1,504 | 1,569 | 65 | 4.3% | N/A | N/A | N/A | N/A | N/A |
| 120 | FI | Gas Corrective Maintenance | FIK | Corrective Maintenance Service Dig-in | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 578.1 | 1,629.3 | 1,051.2 | 181.8% | 1,504 | 1,569 | 65 | 4.3% | N/A | N/A | N/A | N/A | N/A |
| 121 | FI | Gas Corrective Maintenance | FIM | Major Event | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 0.0 | 6.4 | 6.4 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 122 | FI | Gas Corrective Maintenance | FIO | Encroachment | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 611.9 | 1,161.8 | 549.9 | 89.9% | 62 | 89 | 27 | 43.5% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to a higher find rate than forecast in the 2020 GRC. This is demand driven work. |
| 123 | FI | Gas Corrective Maintenance | FIO | Encroachment | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C1 – Corrective Maintenance | Exhibit (PG&E-3), Chapter 4 | 611.9 | 1,161.8 | 549.9 | 89.9% | 62 | 89 | 27 | 43.5% | N/A | N/A | N/A | N/A | N/A |
| 124 | FI | Gas Corrective Maintenance | FIP/ LWH [d] | Corrective Maintenance Service Leak Repair, Below Ground | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 14,343.1 | 26,237.9 | 11,894.8 | 82.9% | 5,419 | 5,604 | 185 | 3.4% | YES | YES | NO | Actual costs exceeded imputed values because of increased unit cost and more units completed. Unit costs were higher due to increases in labor, paving, permitting, and traffic control costs. | Below variance threshold. |
| 125 | FI | Gas Corrective Maintenance | FIP/ LWH [d] | Corrective Maintenance Service Leak Repair, Below Ground | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C5-D – Leak Management - D | Exhibit (PG&E-3), Chapter 8 | 14,343.1 | 26,237.9 | 11,894.8 | 82.9% | 5,419 | 5,604 | 185 | 3.4% | N/A | N/A | N/A | N/A | N/A |

# TABLE 2-3
# GAS DISTRIBUTION 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 126 | FI | Gas Corrective Maintenance | FIP/ LWH [d] | Corrective Maintenance Service Leak Repair, Below Ground | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C4 – Leak Management | Exhibit (PG&E-3), Chapter 8 | 14,343.1 | 26,237.9 | 11,894.8 | 82.9% | 5,419 | 5,604 | 185 | 3.4% | N/A | N/A | N/A | N/A | N/A |
| 127 | FI | Gas Corrective Maintenance | FIQ | Atmospheric Corrosion Monitoring | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 2,118.6 | 4,766.3 | 2,647.7 | 125.0% | 200,000 | 62,144 | (137,856) | -68.9% | NO | NO | YES | Below variance threshold. | Actual units were below imputed units due to regular planned Atmospheric Corrosion (AC inspections) on gas meters being captured as a part of performing the 3-year comprehensive leak survey under MAT DEA or MAT DEF. The 2021 units for MAT FIQ include Cant Get Ins (CGI's) only. |
| 128 | FI | Gas Corrective Maintenance | FIR | Tee-Cap Replacement Program | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 2,126.2 | 1,592.1 | (534.0) | -25.1% | 1,165 | 817 | (348) | -29.9% | NO | NO | YES | Below variance threshold. | Actual units were below imputed units due to execution crews being deployed to emergency fire support therfore causing delays in the ability to excecute planned units. |
| 129 | FI | Gas Corrective Maintenance | FIS | Leak Survey Meter Repair | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 5,237.5 | 7,626.6 | 2,389.0 | 45.6% | 64,978 | 68,382 | 3,404 | 5.2% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 130 | FI | Gas Corrective Maintenance | FI# | Corrective Maintenance, Other | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 1,315.2 | 2,109.4 | 794.2 | 60.4% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 131 | GF | Gas Mapping | GFO | Mapping Support | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 11 | 4,399.8 | 4,559.6 | 159.8 | 3.6% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 132 | GG | Gas Distribution Planning & Operations Engineering | GGA | Gas System Planning | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 4,808.5 | 6,239.5 | 1,431.0 | 29.8% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 133 | GG | Gas Distribution Planning & Operations Engineering | GG# | Gas Distribution Portfolio Management and Engineering | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 1,647.8 | 2,224.7 | 576.9 | 35.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 134 | GM | Natural Gas Fueling Facilities O&M | GMC | CNG Stations Expense | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 5 (MWC Level) | 3,859.4 | 3,529.5 | (329.9) | -8.5% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 135 | GM | Natural Gas Fueling Facilities O&M | GM# | CNG Stations Expense, Other | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 5 (MWC Level) | 10.5 | 0.0 | (10.5) | -100.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 136 | HY | Gas Meter Maintenance | HYI | Gas Meter Atmospheric Corrosion | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 1,868.7 | 2,543.4 | 674.8 | 36.1% | 40,000 | 38,567 | (1,433) | -3.6% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 137 | JQ | Gas DIMP | JQA [e] | DIMP Leak Survey | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 684.3 | 1,036.8 | 352.5 | 51.5% | 54,500 | 65,489 | 10,989 | 20.2% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to the extended DIMP leak survey performed in 2021 which added on an additional 6,981 services and 273,582 feet of main. |
| 138 | JQ | Gas DIMP | JQA [e] | DIMP Leak Survey | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C3 – DIMP Leak Survey | Exhibit (PG&E-3), Chapter 4 | 684.3 | 1,036.8 | 352.5 | 51.5% | 54,500 | 65,489 | 10,989 | 20.2% | N/A | N/A | N/A | N/A | N/A |
| 139 | JQ | Gas DIMP | JQC | Damage Prevention | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 2,538.3 | 3,127.9 | 589.6 | 23.2% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 140 | JQ | Gas DIMP | JQC | Damage Prevention | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C8 – Public Awareness Program | Exhibit (PG&E-3), Chapter 6 | 2,538.3 | 3,127.9 | 589.6 | 23.2% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 141 | JQ | Gas DIMP | JQD | DIMP Emergent Work | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 3,046.9 | 2,048.9 | (998.0) | -32.8% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 142 | JQ | Gas DIMP | JQD | DIMP Emergent Work | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | M1A– DIMP Emergent Work | Exhibit (PG&E-3), Chapter 4 | 1,511.5 | 646.2 | (865.3) | -57.2% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 143 | JQ | Gas DIMP | JQE | Plastic Program | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 319.5 | 150.9 | (168.6) | -52.8% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 144 | JQ | Gas DIMP | JQG | Fitting Mitigation Program | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 1,018.2 | 1,314.0 | 295.7 | 29.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 145 | JQ | Gas DIMP | JQK | Cross Bore Program | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 30,585.0 | 26,538.1 | (4,046.9) | -13.2% | 35,140 | 28,293 | (6,847) | -19.5% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 146 | JQ | Gas DIMP | JQK | Cross Bore Program | Release of Gas with Ignition on Distribution Facilities (Cross-Bore) | M1A – Cross Bore Program | Exhibit (PG&E-3), Chapter 4 | 30,585.0 | 26,538.1 | (4,046.9) | -13.2% | 35,140 | 28,293 | (6,847) | -19.5% | N/A | N/A | N/A | N/A | N/A |
| 147 | JQ | Gas DIMP | JQL | DIMP Program Management | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 4,334.0 | 142.3 | (4,191.7) | -96.7% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 148 | JQ | Gas DIMP | JQ# | DIMP, Other | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 0.0 | 0.03 | 0.03 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 149 | OM | Operational Management | OM# | Operational Management cost | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 11 | 17,529.5 | 16,206.0 | (1,323.5) | -7.6% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |

(a) Cathodic Protection MAT DGD is non-unitized, however, survey mileage is tracked to indicate overall program progress. Survey findings may lead to additional work in MAT DGB or MAT FII.

(b) Cathodic Protection MAT DGE is a non-unitized MAT, however service risers surveyed are tracked to indicate overall program progress. Survey findings may lead to additional work in MAT DGB or MAT FII.

(c) The forecast for these 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.

(d) Includes below ground grade 3 leak repairs recorded under Leak Abatement MWC LW.

(e) Actual units reflect a count of services surveyed in 2021 only and do not include miles of main surveyed. Given the combination of units MAT JQA has shifted to a non-unitized MAT.

# TABLE 2-4
# GAS DISTRIBUTION 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 | G Dist Pipeline Repl Program | 14A | Gas Pipeline Replacement Program | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 126,063.2 | 155,832.5 | 29,769.3 | 23.6% | 182,489 | 194,697 | 12,208 | 6.7% | YES | YES | NO | Program expenditures exceeded imputed regulatory values due to capital projects being pulled forward from 2022 to 2021 based on readiness, which also resulted in projects in higher costing divisions being completed sooner than the 2020 GRC forecast plan. | Below variance threshold. |
| 2 | 14 | G Dist Pipeline Repl Program | 14A | Gas Pipeline Replacement Program | Release of Gas with Ignition on Distribution Facilities (Cross-Bore) | C1 - Cross Bore Prevention Program | Exhibit (PG&E-3), Chapter 4 | 126,063.2 | 155,832.5 | 29,769.3 | 23.6% | 182,489 | 194,697 | 12,208 | 6.7% | N/A | N/A | N/A | N/A | N/A |
| 3 | 14 | G Dist Pipeline Repl Program | 14A | Gas Pipeline Replacement Program | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C6 – Pipeline Replacement Program | Exhibit (PG&E-3), Chapter 4 | 126,063.2 | 155,832.5 | 29,769.3 | 23.6% | 182,489 | 194,697 | 12,208 | 6.7% | N/A | N/A | N/A | N/A | N/A |
| 4 | 14 | G Dist Pipeline Repl Program | 14B | Copper Service Replacements | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 0.0 | 10,632.0 | 10,632.0 | 100.0% | 0 | 205 | 205 | 100% | NO | YES | YES | Program expenditures exceeded imputed regulatory values because there was no forecast provided in the 2020 GRC for MAT 14B since the Copper Services Program was expected 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 since the Copper Services Program was expected 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. |
| 5 | 14 | G Dist Pipeline Repl Program | 14D | Plastic Pipe Replacement | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 402,919.3 | 405,246.4 | 2,327.1 | 0.6% | 723,358 | 719,508 | (3,850) | -0.5% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 6 | 14 | G Dist Pipeline Repl Program | 14D | Plastic Pipe Replacement | Release of Gas with Ignition on Distribution Facilities (Cross-Bore) | C1 - Cross Bore Prevention Program | Exhibit (PG&E-3), Chapter 4 | 402,919.3 | 405,246.4 | 2,327.1 | 0.6% | 723,358.0 | 719,508.0 | (3,850.0) | -0.5% | N/A | N/A | N/A | N/A | N/A |
| 7 | 14 | G Dist Pipeline Repl Program | 14D | Plastic Pipe Replacement | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C6 – Pipeline Replacement Program | Exhibit (PG&E-3), Chapter 4 | 402,919.3 | 405,246.4 | 2,327.1 | 0.6% | 723,358.0 | 719,508.0 | (3,850.0) | -0.5% | N/A | N/A | N/A | N/A | N/A |
| 8 | 27 | Gas Meter Protection-Capital | 27A | Meter Protection-Capital | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 17,263.0 | 2,915.2 | (14,347.8) | -83.1% | 592 | 90 | (502) | -84.8% | NO | YES | YES | Program expenditures were below imputed regulatory values due to less units being performed. See unit variance explanation. | Actual units were below imputed units due to a lower capital conversion rate from expense Meter Protection MAT EXB work materializing than was forecast in the 2020 GRC. |
| 9 | 2K | HPR Program | 2K | HPR Program | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 5 (MWC Level) | 60,424.9 | 61,010.9 | 586.1 | 1.0% | 336 | 302 | (34) | -10.1% | NO | NO | NO | The 2020 GRC forecast for HPR Replacement was at the MWC level. The total imputed adopted cost for MWC 2K is $60,424.9 as compared to the total actual cost of $61,010.9, which is below the variance threshold. Actual costs by MAT are as follows: 2KA - $16,086.9, 2KB - $5,913.4, and 2KC - $39,010.6. Costs are in thousands. | The 2020 GRC forecast for HPR Replacement was at the MWC level. The total imputed units for MWC 2K are 336 as compared to the total actual units of 302, which is below the variance threshold. Actual units by MAT are as follows: 2KA - 52, 2KB - 15, and 2KC - 235. |
| 10 | 2K | HPR Program | 2K | HPR Program | Measurement and Control Failure - Release of Gas with Ignition Downstream | M2A – HPR Replacement | Exhibit (PG&E-3), Chapter 5 (MWC Level) | 60,424.9 | 61,010.9 | 586.1 | 1.0% | 336 | 302 | (34) | -10.1% | N/A | N/A | N/A | N/A | N/A |
| 11 | 31 | NGV - Station Infrastructure | 31A | CNG Stations | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 5 | 4,163.0 | 6,957.1 | 2,794.1 | 67.1% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 12 | 47 | Gas Distribution Capacity | 47B | Gas Capacity, Mains | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 31,458.9 | 35,979.8 | 4,520.8 | 14.4% | 49,098 | 48,818 | (280) | -0.6% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 13 | 47 | Gas Distribution Capacity | 47C | Gas Capacity, Regulator Station | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 7,588.5 | 8,940.3 | 1,351.8 | 17.8% | 6 | 3 | (3) | -50.0% | NO | NO | YES | Below variance threshold. | Actual units were below the imputed units due to lower materialization of system capacity load than forecast. As a result, fewer regulator stations were installed than forecast. |
| 14 | 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 | 494.3 | 441.0 | (53.3) | -10.8% | 10 | 0 | (10) | -100.0% | NO | NO | YES | Below variance threshold. | Actual units were below imputed units due to: 1) supply-chain material delays, 2) permitting challenges, and 3) resource unavailability. |
| 15 | 47 | Gas Distribution Capacity | 47F | Gas Capacity, Other Enhancements | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 293.3 | 9.2 | (284.1) | -96.9% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 16 | 47 | Gas Distribution Capacity | 47# | Capacity, Other | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 0.0 | (56.6) | (56.6) | 100.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 17 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AA | Regulator Station Monitor and Control, Type 1 | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 0.0 | 28.0 | 28.0 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |

# TABLE 2-4
# GAS DISTRIBUTION 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AA | Regulator Station Monitor and Control, Type 1 | Measurement and Control Failure - Release of Gas with Ignition Downstream | M3-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 0.0 | 28.0 | 28.0 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 19 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AA | Regulator Station Monitor and Control, Type 1 | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | M5-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 0.0 | 28.0 | 28.0 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 20 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AB | Regulator Station Monitoring, Type 3 | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 5,621.8 | 22.2 | (5,599.6) | -99.6% | 0 | 0 | 0 | 0 | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 21 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AB | Regulator Station Monitoring, Type 3 | Measurement and Control Failure - Release of Gas with Ignition Downstream | M3-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 5,621.8 | 22.2 | (5,599.6) | (1.0) | 0 | 0 | 0 | 0 | N/A | N/A | N/A | N/A | N/A |
| 22 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AB | Regulator Station Monitoring, Type 3 | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | M5-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 5,621.8 | 22.2 | (5,599.6) | (1.0) | 0 | 0 | 0 | 0 | N/A | N/A | N/A | N/A | N/A |
| 23 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AC | Real Time PSI Monitor, Type 4 | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 2,584.0 | 10.4 | (2,573.7) | -99.6% | 0 | 0 | 0 | 0 | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 24 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AC | Real Time PSI Monitor, Type 4 | Measurement and Control Failure - Release of Gas with Ignition Downstream | M3-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 2,584.0 | 10.4 | (2,573.7) | -99.6% | 0 | 0 | 0 | 0 | N/A | N/A | N/A | N/A | N/A |
| 25 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AC | Real Time PSI Monitor, Type 4 | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | M5-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 2,584.0 | 10.4 | (2,573.7) | -99.6% | 0 | 0 | 0 | 0 | N/A | N/A | N/A | N/A | N/A |
| 26 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AF | ERX Pressure Monitoring, Type 6 | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 879.9 | 840.6 | (39.3) | -4.5% | 29 | 30 | 1 | 3.4% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 27 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AF | ERX Pressure Monitoring, Type 6 | Measurement and Control Failure - Release of Gas with Ignition Downstream | M3-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 879.9 | 840.6 | (39.3) | -4.5% | 29 | 30 | 1 | 3.4% | N/A | N/A | N/A | N/A | N/A |
| 28 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AF | ERX Pressure Monitoring, Type 6 | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | M5-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 879.9 | 840.6 | (39.3) | -4.5% | 29 | 30 | 1 | 3.4% | N/A | N/A | N/A | N/A | N/A |
| 29 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AK | Regulator Station Monitoring Single No Flow, Type 3 | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 4,913.5 | (15.5) | (4,929.0) | -100.3% | 0 | 0 | 0 | 0 | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 30 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AK | Regulator Station Monitoring Single No Flow, Type 3 | Measurement and Control Failure - Release of Gas with Ignition Downstream | M3-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 4,913.5 | (15.5) | (4,929.0) | -100.3% | 0 | 0 | 0 | 0 | N/A | N/A | N/A | N/A | N/A |
| 31 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AK | Regulator Station Monitoring Single No Flow, Type 3 | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | M5-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 4,913.5 | (15.5) | (4,929.0) | -100.3% | 0 | 0 | 0 | 0 | N/A | N/A | N/A | N/A | N/A |
| 32 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AL | Regulator Station Monitoring Dual Flow, Type 3 | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 8,915.8 | 26.1 | (8,889.7) | -99.7% | 0 | 0 | 0 | 0 | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 33 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AL | Regulator Station Monitoring Dual Flow, Type 3 | Measurement and Control Failure - Release of Gas with Ignition Downstream | M3-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 8,915.8 | 26.1 | (8,889.7) | -99.7% | 0 | 0 | 0 | 0 | N/A | N/A | N/A | N/A | N/A |
| 34 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AL | Regulator Station Monitoring Dual Flow, Type 3 | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | M5-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 8,915.8 | 26.1 | (8,889.7) | -99.7% | 0 | 0 | 0 | 0 | N/A | N/A | N/A | N/A | N/A |
| 35 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AM | Reg Stat Mntr Dual No Flow Type 3 | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 7,040.7 | 28,942.2 | 21,901.5 | 311.1% | 122 | 111 | (11) | -9.0% | YES | YES | NO | 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 costs for these MATs is $29,075.9 as compared to the total 2021 actuals of $29,013.4, the difference of which is below the variance threshold. Costs are in thousands. | Below variance threshold. |

# TABLE 2-4
# GAS DISTRIBUTION 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AM | Reg Stat Mntr Dual No Flow Type 3 | Measurement and Control Failure - Release of Gas with Ignition Downstream | M3-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 7,040.7 | 28,942.2 | 21,901.5 | 311.1% | 122 | 111 | (11) | -9.0% | N/A | N/A | N/A | N/A | N/A |
| 37 | 4A[(a)] | Gas Distribution Control Operations Assets | 4AM | Reg Stat Mntr Dual No Flow Type 3 | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | M5-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 7,040.7 | 28,942.2 | 21,901.5 | 311.1% | 122.0 | 111.0 | (11.0) | -9.0% | N/A | N/A | N/A | N/A | N/A |
| 38 | 4A[(a)] | Gas Distribution Control Operations Assets | 4A# | SCADA Support | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 9 | 505.1 | 482.7 | (22.5) | -4.4% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 39 | 4A[(a)] | Gas Distribution Control Operations Assets | 4A# | SCADA Support | Measurement and Control Failure - Release of Gas with Ignition Downstream | M3-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 505.1 | 482.7 | (22.5) | -4.4% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 40 | 4A[(a)] | Gas Distribution Control Operations Assets | 4A# | SCADA Support | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | M5-D – SCADA Visibility - D | Exhibit (PG&E-3), Chapter 9 | 505.1 | 482.7 | (22.5) | -4.4% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 41 | 50 | Gas Dist Reliability General | 50A | Reliability Main Replacement | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 47,372.9 | 63,310.3 | 15,937.4 | 33.6% | 78,210 | 95,857 | 17,647 | 22.6% | NO | YES | YES | Program expenditures exceeded imputed regulatory values due to capital projects being pulled forward from 2022 to 2021 based on readiness, which also resulted in projects in higher costing divisions being completed sooner than the 2020 GRC forecast plan. | Actual units were higher than imputed units due to: 1) the execution of capital projects pulled forward from 2022 to 2021 based on readiness, and 2) more field identified work than historically experienced. |
| 42 | 50 | Gas Dist Reliability General | 50A | Reliability Main Replacement | Release of Gas with Ignition on Distribution Facilities (Cross-Bore) | C1 - Cross Bore Prevention Program | Exhibit (PG&E-3), Chapter 4 | 47,372.9 | 63,310.3 | 15,937.4 | 33.6% | 78,210 | 95,857 | 17,647 | 22.6% | N/A | N/A | N/A | N/A | N/A |
| 43 | 50 | Gas Dist Reliability General | 50A | Reliability Main Replacement | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | C6 – Pipeline Replacement Program | Exhibit (PG&E-3), Chapter 4 | 47,372.9 | 63,310.3 | 15,937.4 | 33.6% | 78,210 | 95,857 | 17,647 | 22.6% | N/A | N/A | N/A | | |
| 44 | 50 | Gas Dist Reliability General | 50B | Reliability Service Replacement | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 9,991.2 | 18,476.8 | 8,485.6 | 84.9% | 494 | 669 | 175 | 35.4% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to resource availability and support which allowed for the execution of additional capital work. |
| 45 | 50 | Gas Dist Reliability General | 50C | Gas Regulator Station Rebuild | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 5 | 41,735.2 | 76,659.7 | 34,924.4 | 83.7% | 33 | 28 | (5) | -15.2% | YES | YES | NO | Program expenditures exceeded imputed regulatory values due to higher unit costs than forecast in the 2020 GRC. The imputed unit cost was lower than the previous 4-year historical unit costs and does not incorporate higher contractor and vendor costs (for example construction costs), increased labor costs (for example construction inspection costs), and material costs. | Below variance threshold. |
| 46 | 51 | Gas Dist Reliability General | 50C | Gas Regulator Station Rebuild | Measurement and Control Failure - Release of Gas with Ignition Downstream | C5 – Regulator Station Replacement | Exhibit (PG&E-3), Chapter 5 | 41,735.2 | 76,659.7 | 34,924.4 | 83.7% | 33.0 | 28.0 | (5.0) | -15.2% | N/A | N/A | N/A | N/A | N/A |
| 47 | 52 | Gas Dist Reliability General | 50C | Gas Regulator Station Rebuild | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C8 – Regulator Station Replacement | Exhibit (PG&E-3), Chapter 5 | 41,735.2 | 76,659.7 | 34,924.4 | 83.7% | 33.0 | 28.0 | (5.0) | -15.2% | N/A | N/A | N/A | N/A | N/A |
| 48 | 53 | Gas Dist Reliability General | 50D/ 50Q[(b)] | Cathodic Protection Casing Mitigation | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 9,866.3 | 12,287.5 | 2,421.2 | 24.5% | 72 | 126 | 54 | 75.0% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to the mix of required and compliance work in this MAT. The 2021 actual units consist of 75 rectifier replacements, 3 atmospheric corrosion span mitigations, 7 RMU replacements, and 41 casing mitigations. |
| 49 | 50 | Gas Dist Reliability General | 50E | Reliability Gas Valve Replacement | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 13,705.7 | 11,837.6 | (1,868.1) | -13.6% | 197 | 203 | 6 | 3.0% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 50 | 50 | Gas Dist Reliability General | 50E | Reliability Gas Valve Replacement | Release of Gas with Ignition on Distribution Facilities (non-Cross Bore) | M2 – New Valve Installations | Exhibit (PG&E-3), Chapter 4 | 6,940.0 | 7,937.5 | 997.5 | 14.4% | 100 | 131 | 31 | 31.0% | N/A | N/A | N/A | N/A | N/A |
| 51 | 50 | Gas Dist Reliability General | 50F | Reliability Gas Other Equipment Replacement | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 974.0 | 474.5 | (499.5) | -51.3% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |

# TABLE 2-4
# GAS DISTRIBUTION 2021 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 and/or Control Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 52 | 50 | Gas Dist Reliability General | 50G/ 3PB [c] | Leak Management - Simple Service Replacement | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 26,513.4 | 22,075.5 | (4,438.0) | -16.7% | 1,650 | 1,278 | (372) | -22.5% | NO | NO | YES | Below variance threshold. | Actual units were below imputed values because less actual 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. |
| 53 | 50 | Gas Dist Reliability General | 50H | Reliability, Cut-Off Idle Gas Service | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 4,942.2 | 5,366.5 | 424.3 | 8.6% | 566 | 418 | (148) | -26.1% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units due to less stubs identified in the field for excavation and removal than forecast. This is a demand driven program. |
| 54 | 50 | Gas Dist Reliability General | 50I | Improve Reliability Deactivation | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 12,239.6 | 6,317.2 | (5,922.4) | -48.4% | N/A | N/A | N/A | N/A | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 55 | 50 | Gas Dist Reliability General | 50J | Encroachment | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 4 | 19,268.6 | 13,942.7 | (5,325.9) | -27.6% | 739 | 398 | (341) | -46.1% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units due to a lower find rate materializing than forecast. This program is demand driven. |
| 56 | 50 | Gas Dist Reliability General | 50K | Emergent Leaking Main Replace | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 6,802.7 | 4,268.1 | (2,534.6) | -37.3% | 11,291 | 4,216 | (7,075) | -62.7% | 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 leak 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 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. |
| 57 | 50 | Gas Dist Reliability General | 50L | Gas Regulator Station Component Rebuilds | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 5 | 12,266.8 | 15,023.3 | 2,756.4 | 22.5% | 148 | 129 | (19) | -12.8% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 58 | 50 | Gas Dist Reliability General | 50L | Gas Regulator Station Component Rebuilds | Measurement and Control Failure - Release of Gas with Ignition at M&C Facility | C7 – Regulator Station Component Replacement | Exhibit (PG&E-3), Chapter 5 | 12,266.8 | 15,023.3 | 2,756.4 | 22.5% | 148.0 | 129.0 | (19.0) | -12.8% | N/A | N/A | N/A | N/A | N/A |
| 59 | 50 | Gas Dist Reliability General | 50L | Gas Regulator Station Component Rebuilds | Measurement and Control Failure - Release of Gas with Ignition Downstream | C4 – Regulator Station Component Replacement | Exhibit (PG&E-3), Chapter 5 | 12,266.8 | 15,023.3 | 2,756.4 | 22.5% | 148.0 | 129.0 | (19.0) | -12.8% | N/A | N/A | N/A | N/A | N/A |
| 60 | 50 | Gas Dist Reliability General | 50M/ 3PC [c] | Leak Management – Complex Service Replacements | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 7,354.4 | 1,014.6 | (6,339.8) | -86.2% | 453 | 37 | (416) | -91.8% | NO | NO | YES | Below variance threshold. | Actual units were lower than imputed units because less actual 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. |
| 61 | 50 | Gas Dist Reliability General | 50N | GD Over Pressure Protection | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 5 | 13,982.5 | 21,761.3 | 7,778.8 | 55.6% | 197 | 250 | 53 | 26.9% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to carryover work completed from prior years. |
| 62 | 50 | Gas Dist Reliability General | 50N | GD Over Pressure Protection | Measurement and Control Failure - Release of Gas with Ignition Downstream | M4 – Station OPP Enhancements | Exhibit (PG&E-3), Chapter 5 | 13,982.5 | 21,761.3 | 7,778.8 | 55.6% | 197 | 250 | 53.0 | 26.9% | N/A | N/A | N/A | N/A | N/A |
| 63 | 50 | Gas Dist Reliability General | 50P | Cathodic Protection System New/Replace | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 7 | 8,919.1 | 19,614.8 | 10,695.7 | 119.9% | 115 | 85 | (30) | -26.1% | NO | YES | YES | Program expenditures exceeded imputed regulatory values due to higher unit costs than forecast in the 2020 GRC. The higher costs are primarily associated with the conversion of this workstream to contractors. Contractors performing the drilling must hold a California drilling license in accordance with State regulations. | Actual units are below imputed units due to annual fluctuations in the actual number of ground bed replacements required to maintain compliance. |
| 64 | 52 | Gas Distribution Emergency Response | 52B | Emergency Response to Dig Ins, Services | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 127.3 | 2,362.6 | 2,235.3 | 1756.2% | 203 | 164 | (39) | -19.2% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 65 | 52 | Gas Distribution Emergency Response | 52C | Emergency Response to Dig Ins, Mains | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 8 | 774.7 | 505.9 | (268.8) | -34.7% | 988 | 914 | (75) | -7.5% | NO | NO | NO | Below variance threshold. | Below variance threshold. |
| 66 | 74 | Install New Gas Meters | 74A | Gas Regulator Replacement | SRM Total (Non RAMP) | SRM Total (Non RAMP) | Exhibit (PG&E-3), Chapter 6 | 1,984.5 | 5,913.6 | 3,929.1 | 198.0% | 6,289 | 19,854 | 13,565 | 215.7% | NO | NO | YES | Below variance threshold. | Actual units were higher than imputed units due to increased demand of regulator replacements. |

(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) Casing mitigation work was forecast under MAT 50D in the 2020 GRC. PG&E created MAT 50Q in 2020 to record costs associated with casing mitigations and is presenting 2021 casing mitigations recorded to MAT 50Q in the same row for consistency with 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 GPRP; (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 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 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** – Previously included: (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.

This MAT is no longer in use, see MAT DEB Special Leak Survey.

**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. Also includes USA delineation marking and calibration/repair of equipment. Does not include locate and mark for Gas and Electric Transmission. 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, 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 USA. 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 – CP**: **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 – CP**: **Troubleshooting** – Includes troubleshooting and identification of problems with down Cathodic Protection Areas (CPA) and performing 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 – CP: 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 – CP: 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 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 feet 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 feet 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 EXA – MPP Inspections** – Previously included inspecting the MPP database or performing a special survey to identify the need for Barrier Posts or Service Valves. As part of the transition of the MPP to ongoing maintenance, this MAT is no longer in use.

**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** – Previously included 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). As part of the transition of the MPP to ongoing maintenance, this MAT is no longer in use.

**MAT FGA – Gas Distribution Control Center (GDCC) Operations** – Includes gas control personnel, 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 personnel, 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 – Operate Distribution 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 or 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 – Operate Distribution Regulator General** – Control the supply and flow of gas through the distribution system via direction from the 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 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 less than 100 feet of gas distribution main; (6) identify pipe; and (7) install Electrolytic 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; (4) pothole gas facilities for potential conflicts with third-party work; (5) third-party damage; (6) AC; (7) install ETS for purposes of corrosion prevention; (8) fire valve repair or replacement; (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 feet of main 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 or 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 Station** – 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 pounds per square inch gauge; (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 MAT.

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 or 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; (10) installation of excess flow valve (EFV) (when not related to leak repair); (11) repairing inoperative bypass valves including exposing buried/inaccessible bypass valves and raising the riser; and (12) repairing non-gradable leaks on buried valves that require riser replacement. 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 inspections and operation checks of emergency, curb, and sectionalizing valves. This is a non-unitized MAT.

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 which involves exposing buried/inaccessible service valves and raising the riser and relocation of an existing service valve less than 2 inches. Does not include: (1) valves greater than or equal to 2 inches; (2) work above the service valve; (3) encroachment related work; (4) installation or relocation of an existing service valve less than 2 inches that results in re-running the entire service from the main; and (5) repair or replace curb valves less than 2 inches. 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. 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.

**MAT FHK – AC Monitoring** – Inspect atmospherically exposed gas mains and services, for AC. This is a non-unitized MAT.

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 – AC 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 – AC Service Repairs** – Expense repairs of AC on services to below stopcock. Does not include: AC repairs of customer gas regulators, HPRs, 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 – AC Distribution Regulator Station Repair** – Expense repairs of AC on distribution district regulator stations. Unit of measure is number of regulator 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 SCADA** – SCADA preventive maintenance to RTU, SCADA Transmitters and ERXs. Activities may include normal operation checks, input/output checks, check/set power supply and other activities.

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. Activities may include response and investigation of SCADA alarms at the request of the control center and maintenance or repair of failed or inoperative electronic permanent pressure recorder at a regulator station. This is a non-unitized MAT.

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 – Over Pressure Protection (OPP) Enhancements** – Includes: installation of pilot filters, system planning studies to identify the most effective secondary OPP 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 OPP 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 FHR – Distribution Pipeline Markers** – Perform patrols on distribution mains. This is a non-unitized MAT.

This MAT relates to safety and/or reliability and/or maintenance as it includes performing patrols on distribution mains.

**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 MAT.

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 MAT.

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 WRO (especially street repaving). This is a non-unitized MAT.

This program relates to safety and/or reliability and/or maintenance as it includes: (1) replacing valves less than 2 inches; (2) repairing 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 CPA 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. 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.

**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 – AC Monitoring** – 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) 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 (CAP) 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, CAP 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 Expense** – 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 O&M.

**MAT HYI – Meter Set AC Remediation** – Perform remediation of AC on customer gas meters and regulators as identified through AC inspection. 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 AC inspection.

**MAT JQA – DIMP Leak Survey** – Leak Survey enhancements. This is a non-unitized MAT.[3]

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

**MAT JQC – Damage Prevention Dig-In Reduction Team (DiRT)** – Costs associated with the 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 MAT 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.

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**3** Actual units in Table 2-3 reflect a count of services surveyed in 2021 only and do not include miles of main surveyed. Given the combination of units MAT JQA has shifted to a non-unitized MAT.

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

**MAT JQE – Plastic Program** – Supports the selection, testing and development of plastic materials, tools, and associated construction methods for use on the 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 MAT is non-unitized.

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, and repair costs to remove legacy cross bores. It 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 a non-unitized MAT.

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

**MAT JQ# – DIMP, Other** – Other support costs for DIMP. This is a non-unitized MAT.

See MWC JQ DIMP for how this program relates 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 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 – GPRP** – Replace main and services qualifying for replacement under the GPRP. 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 CSRP. 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 CSRP.

**MAT 14D – Plastic Pipe Replacement**– Replace main and services qualifying for replacement under the Plastic 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 and/or maintenance as it involves replacing main and services qualifying for replacement under the Plastic Pipeline Replacement Program.

**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 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 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, SCADA Type 1** – HPR Station Monitoring and Control. Includes upstream, midstream, and downstream pressure, differential pressure, flow and shut-off control. This MAT is non-unitized.

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, SCADA Type 3** – 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 PSI Monitor, SCADA 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, SCADA Type 6** – Includes regulator station, Hydraulically Independent System (HIS) pipeline or valve pressure, and ERX pressure monitoring. 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). Also high and low pressure regulator station monitoring and control-dual run: includes upstream, midstream and downstream pressure, differential pressure (high pressure only), vault water level (low pressure only) and shut-off control. 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. 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, SCADA 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 HPR station monitoring (dual run). It includes: upstream, midstream, and downstream pressure, differential pressure, and flow.

**MAT 4AM – Regulator Station Monitoring Dual No Flow, SCADA Type 3** – High and low regulator station monitoring-dual run: includes upstream, midstream, 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, downstream pressure, differential pressure (high pressure only), and vault water level (low pressure only).

**MAT 4A# – SCADA Support** – 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.

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 47# – Gas Capacity, Other** – Other Gas Capacity costs. This MAT is non-unitized.

See MWC 47 Gas Distribution Capacity for how this MAT relates to safety and/or reliability and/or maintenance.

**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, and 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 Casing mitigation** – 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. This may involve replacing end seals, removing segments of the casing, replacing link seals and insulation spacers, flushing and draining casings, repairing coatings, and gelling the casing after site restoration. Does not include: impressed current anodes (deep or shallow bed) and CP systems for ETS less than five stations at a single location. 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 inches or greater, and therm billing area valves). Does not include station fire valve or block valve replacement. 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 inches 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, new pits/vaults, and 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 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** – 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 – CP 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 feet 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 inches 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 inches and greater.

# PACIFIC GAS AND ELECTRIC COMPANY

# SECTION 3

# ELECTRIC DISTRIBUTION

# IMPUTED ADOPTED VS. RECORDED COMPARISON

PACIFIC GAS AND ELECTRIC COMPANY
SECTION 3
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 2021 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. actual cost 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 nonexempt surge-arrester 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 2021 EXPENSE COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) |
|---|---|---|---|---|---|
| 1 | Support and Emergency Preparedness and Response (EP&R) | AB | 68,665.4 | 210,906.2 | 142,240.8 |
| 2 | Read & Investigate Meters | AR | 0.0 | 9,398.0 | 9,398.0 |
| 3 | Electric Distribution Operation Activities | BA | 21,993.4 | 33,452.0 | 11,458.7 |
| 4 | Perform Reimbursable Work for Others | BC | 0.0 | 86.3 | 86.3 |
| 5 | Electric Distribution Patrols and Inspections | BF | 33,969.3 | 150,535.0 | 116,565.7 |
| 6 | Electric Distribution Routine Emergency | BH | 58,922.5 | 92,047.0 | 33,124.4 |
| 7 | Maintenance of Other Equip | BK | 1,707.0 | 2,098.4 | 391.4 |
| 8 | Customer Field Service Work | DD | 20,997.2 | 25,253.4 | 4,256.1 |
| 9 | Manage Service Inquiries | EV | 13,031.9 | 16,480.9 | 3,449.1 |
| 10 | Electric Operations Work Requested by Others (WRO) | EW | 9,403.7 | 14,443.1 | 5,039.5 |
| 11 | Change/Maintenance Used Electric Meter | EY | 0.0 | 6,550.7 | 6,550.7 |
| 12 | Electric Distribution Engineering and Planning | FZ | 17,477.6 | 18,466.8 | 989.3 |
| 13 | Poles – Intrusive Inspection/Test and Treat Program | GA | 13,930.1 | 36,355.5 | 22,425.4 |
| 14 | Operate and Maintain Substations | GC | 29,890.5 | 50,571.6 | 20,681.1 |
| 15 | Electric Distribution Mapping | GE | 6,031.6 | 16,688.1 | 10,656.5 |
| 16 | Electric Distribution Operational Technology | HG | 11,158.6 | 7,249.9 | (3,908.7) |
| 17 | Vegetation Management Balancing Account | HN (a) | 252,197.3 | 682,524.8 | 430,327.5 |
| 18 | Distribution Automation & Protection Support | HX | 2,099.7 | 2,452.2 | 352.5 |
| 19 | Perform Gas Meter Maintenance | HY | 0.0 | 558.0 | 558.0 |
| 20 | Electric Distribution Major Emergency | IF | 34,647.9 | 146,946.2 | 112,298.3 |
| 21 | Various Balancing and Memorandum Accounts | IG (a) | 350,616.5 | 945,649.4 | 595,032.9 |
| 22 | Streetlight Support | IS | 1,107.8 | 664.5 | (443.3) |
| 23 | Collect Revenue | IU | 0.0 | 1,855.6 | 1,855.6 |
| 24 | Maintain IT Applications & Infrastructure | JV | 5,361.2 | 2,300.6 | (3,060.6) |
| 25 | Preventive Maintenance and Equipment Repair, Overhead (OH) | KA | 33,279.0 | 107,738.1 | 74,459.1 |
| 26 | Preventive Maintenance and Equipment Repair, Underground (UG) | KB | 12,835.6 | 20,421.2 | 7,585.7 |
| 27 | Preventive Maintenance and Equipment Repair, | KC | 4,130.7 | 4,560.9 | 430.2 |
| 28 | Operational Management | OM | 7,428.7 | 19,297.9 | 11,869.2 |
| 29 | Operational Support | OS | 22,951.6 | 18,431.5 | (4,520.1) |
| 30 | **Total** | | **1,033,834.8** | **2,643,983.8** | **1,610,149.0** |

Notes:
(a) The 2020 GRC adopted amounts for PG&E's Vegetation Management Program, including both Routine Vegetation Management (MWC HN) and Enhanced Vegetation Management (MAT IGJ), were adopted in MWC HN. In this report PG&E is showing the imputed adopted portion to where the activity is recorded.

**TABLE 3-2**
**ELECTRIC DISTRIBUTION 2021 CAPITAL COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) |
|---|---|---|---|---|---|
| 1 | Tools & Equipment | 05 | 7,815.6 | 6,573.7 | (1,241.9) |
| 2 | Electric Distribution Line and Equipment Capacity | 06 | 91,882.8 | 157,046.1 | 65,163.3 |
| 3 | Electric Distribution Install/Replace Overhead Poles | 07 | 109,236.7 | 414,827.4 | 305,590.8 |
| 4 | Electric Distribution Overhead Asset Replacement | 08 | 876,247.7 | 349,304.5 | (526,943.2) |
| 5 | Electric Distribution Automation & Protection | 09 | 35,557.2 | 33,098.7 | (2,458.5) |
| 6 | Electric Distribution Work Requested by Others (WRO) General | 10 | 142,156.7 | 170,163.8 | 28,007.0 |
| 7 | Electric Distribution Customer Connects | 16 | 463,208.0 | 622,050.1 | 158,842.0 |
| 8 | Electric Distribution Routine Emergency | 17 | 188,416.2 | 274,632.6 | 86,216.4 |
| 9 | Miscellaneous Capital and Emergency Preparedness & Response | 21 | (30,126.1) | 29,034.0 | 59,160.1 |
| 10 | Corporate Real Estate | 23 | 0.0 | 266.5 | 266.5 |
| 11 | Install New Electric Meters | 25 | 0.0 | 28,508.2 | 28,508.2 |
| 12 | Electric Distribution Preventive Maintenance Overhead | 2A | 198,580.5 | 430,241.5 | 231,661.0 |
| 13 | Electric Distribution Preventive Maintenance | 2B | 59,397.3 | 83,906.3 | 24,509.0 |
| 14 | Electric Distribution Preventive Maintenance Network | 2C | 20,019.2 | 21,820.9 | 1,801.7 |
| 15 | Build IT Applications & Infrastructure | 2F | 17,393.8 | 66,989.1 | 49,595.4 |
| 16 | Electric Distribution WRO Rule 20A | 30 | 34,312.0 | 37,818.2 | 3,506.2 |
| 17 | Energy Storage Capital | 3R | 0.0 | 284.0 | 284.0 |
| 18 | Electric Distribution Substation Capacity | 46 | 58,316.9 | 54,215.9 | (4,101.0) |
| 19 | Electric Distribution Substation Replace Other Equipment | 48 | 53,475.0 | 69,653.4 | 16,178.4 |
| 20 | Electric Distribution Reliability Circuit/Zone | 49 | 35,419.4 | 88,129.7 | 52,710.4 |
| 21 | Electric Distribution Substation Transformer Replacements | 54 | 5,660.1 | 37,733.7 | 32,073.6 |
| 22 | Electric Distribution Underground (UG) Asset Replacements | 56 | 101,386.5 | 106,439.6 | 5,053.0 |
| 23 | Electric Distribution Substation Safety and Security | 58 | 4,733.1 | 3,121.8 | (1,611.3) |
| 24 | Electric Distribution Substation Emergency | 59 | 64,283.6 | 109,649.7 | 45,366.1 |
| 25 | Electric Operations Control Center Facility and Operations Technology | 63 | 32,251.7 | 69,014.4 | 36,762.6 |
| 26 | Install New Gas Meters | 74 | 0.0 | 39,771.7 | 39,771.7 |
| 27 | Electric Distribution Major Emergency | 95 | 56,556.5 | 159,627.3 | 103,070.8 |
| 28 | **Total** | | **2,626,180.4** | **3,463,922.6** | **837,742.3** |

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

### TABLE 3-3
### ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 | $ 18,212.7 | $ 98,057.4 | $ 79,844.6 | 438.4% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenses exceeded imputed regulatory values due to higher miscellaneous recurring costs and miscellaneous contract and consulting costs from incremental work beyond historic spend (e.g. Electric Asset Excellence Program and PAS 55 certification), higher Applied Technology Services (ATS) spend because of special projects related to wildfire risk, and the expansion of functions and headcount in the Regulatory Compliance and Quality Assurance group. In addition, costs for the CWSP PMO were higher than forecasted, and there Post 2020 GRC Mitigation costs for management support and quality assurance for wildfire risk mitigation work not forecast in the 2020 GRC. | N/A |
| 2 | AB | Support and EP&R | # | Not assigned | RAMP Risk: DOCP Mitigation | M3 - Additional Public Awareness Outreach | 4-18 | $ 44.7 | $ - | $ (44.7) | -100.0% | 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: DOCP Control | C1 - Public Awareness Programs | 4-18 | $ 271.9 | $ 260.0 | $ (11.9) | -4.4% | 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 | M12 - Wildfire System Hardening | 4-9 | $ - | $ 89.3 | $ 89.3 | 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 | M28 - CWSP Program Management Office | 4-18 | $ 8,480.7 | $ 15,818.4 | $ 7,337.7 | 86.5% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 6 | AB | Support and EP&R | # | Not assigned | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ - | $ 46,420.6 | $ 46,420.6 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 7 | AB | Support and EP&R | # | Not assigned | SRM (Non-RAMP) | SRM (Non-RAMP) | 4-18 | $ 9,415.4 | $ 35,469.1 | $ 26,053.7 | 276.7% | 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 | SRM Total | SRM Total | 4-3 | $ 50,452.7 | $ 112,670.3 | $ 62,217.6 | 123.3% | 180 | 153 | (27) | -15.0% | YES | YES | NO | Program expenses exceeded imputed regulatory values due to PSPS events. The majority of the PSPS program costs were not forecast in the 2020 GRC filing since it was a new program and lacked sufficient detail to forecast at the time of filing. The 2020 GRC forecast and 2021 imputed amount included only the customer outreach component of the PSPS program. | Below variance threshold |
| 9 | AB | Support and EP&R | AB6 | EP&R Expense | RAMP Risk: WF Mitigation | M13 - Public Safety Power Shutoff | 4-3 | $ 6,305.8 | $ 70,792.8 | $ 64,486.9 | 1022.7% | 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 | M18 - Wildfire Safety Operations Center | 4-3 | $ 6,211.0 | $ 4,847.4 | $ (1,363.6) | -22.0% | 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 | M19 - Expanded Weather Station Deployment | 4-3 | $ 577.9 | $ 145.2 | $ (432.7) | -74.9% | 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 | M20 - SOPP Model Automation | 4-3 | $ 302.7 | $ 1,976.9 | $ 1,674.2 | 553.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 13 | AB | Support and EP&R | AB6 | EP&R Expense | RAMP Risk: WF Mitigation | M21 - Advanced Fire Modeling | 4-3 | $ 1,194.3 | $ 4,833.2 | $ 3,638.8 | 304.7% | 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 | M22 - Wildfire Cameras | 4-3 | $ 14,860.6 | $ 8,050.8 | $ (6,809.8) | -45.8% | 180 | 153 | (27) | -15.0% | N/A | N/A | N/A | N/A | N/A |
| 15 | AB | Support and EP&R | AB6 | EP&R Expense | RAMP Risk: WF Mitigation | M23 - Satellite Fire Detection System | 4-3 | $ 302.7 | $ 195.2 | $ (107.5) | -35.5% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 16 | AB | Support and EP&R | AB6 | EP&R Expense | RAMP Risk: WF Mitigation | M24 - Enhanced Wire Down Detection | 4-3 | $ 220.2 | $ - | $ (220.2) | -100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 17 | AB | Support and EP&R | AB6 | EP&R Expense | RAMP Risk: WF Mitigation | M25 - Wildfire and Infrastructure Protection Teams | 4-3 | $ 13,788.3 | $ 17,112.0 | $ 3,323.7 | 24.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 18 | AB | Support and EP&R | AB6 | EP&R Expense | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ - | $ 52.1 | $ 52.1 | 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 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | AB | Support and EP&R | AB6 | EP&R Expense | SRM (Non-RAMP) | SRM (Non-RAMP) | 4-3 | $ 6,689.2 | $ 4,664.7 | $ (2,024.5) | -30.3% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 20 | AR | Read & Investigate Meters | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 6-6 | $ - | $ 9,398.0 | $ 9,398.0 | 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. | N/A |
| 21 | BA | Electric Distribution Operation Activities | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-5 | $ - | $ 0.2 | $ 0.2 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 22 | BA | Electric Distribution Operation Activities | BAF | General Operations | SRM Total | SRM Total | 4-5 | $ 21,993.4 | $ 29,929.4 | $ 7,936.1 | 36.1% | N/A | N/A | N/A | N/A | NO | YES | N/A | Program expenses exceeded imputed regulatory values due to increased workload from compliance, system hardening and new business work, and wildfire mitigation work to support EPSS. | N/A |
| 23 | BA | Electric Distribution Operation Activities | BAF | General Operations | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ - | $ 5,660.5 | $ 5,660.5 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | N/A | N/A |
| 24 | BA | Electric Distribution Operation Activities | BAF | General Operations | SRM (Non-RAMP) | SRM (Non-RAMP) | 4-5 | $ 21,993.4 | $ 24,268.9 | $ 2,275.6 | 10.3% | N/A | N/A | N/A | N/A | NO | NO | N/A | N/A | N/A |
| 25 | BA | Electric Distribution Operation Activities | BAH | FLISR Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-5 | $ - | $ 3,522.3 | $ 3,522.3 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 26 | BC | Perform Reimbursable Work for Others | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-5 | $ - | $ 86.3 | $ 86.3 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 27 | BF | Electric Distribution Patrols and Inspections | BF3 | UG BART Cable Test/Insp | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 40.9 | $ 20.2 | $ (20.7) | -50.7% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 28 | BF | Electric Distribution Patrols and Inspections | BF4 | UG Auto Transfer Switch Test/Insp | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 100.5 | $ 67.0 | $ (33.5) | -33.3% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 29 | BF | Electric Distribution Patrols and Inspections | BFA | OH Poles Patrolled | SRM Total | SRM Total | 4-6 | $ 4,931.0 | $ 6,079.2 | $ 1,148.2 | 23.3% | 1,502,599 | 1,328,943 | (173,656) | -11.6% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 30 | BF | Electric Distribution Patrols and Inspections | BFA | OH Poles Patrolled | RAMP Risk: WF Control / DOCP Control | C1 - OH Patrols and Inspections / C6 - OH Patrols and Inspections | 4-6 | $ 4,931.0 | $ 6,079.2 | $ 1,148.1 | 23.3% | 1,502,599 | 1,328,943 | (173,656) | -11.6% | N/A | N/A | N/A | N/A | N/A |
| 31 | BF | Electric Distribution Patrols and Inspections | BFB | OH Poles Inspected | SRM Total | SRM Total | 4-6 | $ 13,637.0 | $ 95,920.6 | $ 82,283.6 | 603.4% | 493,600 | 988,718 | 495,118 | 100.3% | 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. | Actual units exceeded imputed regulatory units due to increased number of inspections, driven by new enhanced inspection process, and increased inspections in the high fire threat areas. |
| 32 | BF | Electric Distribution Patrols and Inspections | BFB | OH Poles Inspected | RAMP Risk: WF Control / DOCP Control | C1 - OH Patrols and Inspections / C6 - OH Patrols and Inspections | 4-6 | $ 13,637.0 | $ 95,920.6 | $ 82,283.6 | 603.4% | 493,600 | 988,718 | 495,118 | 100.3% | N/A | N/A | N/A | N/A | N/A |
| 33 | BF | Electric Distribution Patrols and Inspections | BFC | OH Infrared Inspections | SRM Total | SRM Total | 4-6 | $ 2,249.4 | $ 2,118.1 | $ (131.3) | -5.8% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 34 | BF | Electric Distribution Patrols and Inspections | BFC | OH Infrared Inspections | RAMP Risk: WF Control / DOCP Control | C1 - OH Patrols and Inspections / C7 - Overhead Infrared Inspections | 4-6 | $ 2,249.4 | $ 2,118.1 | $ (131.3) | -5.8% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 35 | BF | Electric Distribution Patrols and Inspections | BFD | UG Enclosures Patrolled | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 1,012.0 | $ 2,447.3 | $ 1,435.3 | 141.8% | 184,104 | 260,741 | 76,637 | 41.6% | NO | NO | YES | Below variance threshold | Actual units exceeded imputed regulatory units due to increased number of patrols, driven by new requirements in the high fire threat areas. |
| 36 | BF | Electric Distribution Patrols and Inspections | BFE | UG Infrared Inspections | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 5,379.1 | $ 12,968.7 | $ 7,589.6 | 141.1% | 60,956 | 179,574 | 118,618 | 194.6% | 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. | Actual units exceeded imputed regulatory units 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. |
| 37 | BF | Electric Distribution Patrols and Inspections | BFF | UG Line Equipment Insp/Test | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 574.0 | $ 557.7 | $ (16.2) | -2.8% | 2,415 | 2,254 | (161) | -6.7% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 38 | BF | Electric Distribution Patrols and Inspections | BFG | OH Line Equipment Insp/Test | SRM Total | SRM Total | 4-6 | $ 2,816.0 | $ 2,836.1 | $ 20.1 | 0.7% | 24,288 | 24,424 | 136 | 0.6% | NO | NO | NO | Below variance threshold | Below variance threshold |

# TABLE 3-3
# ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 39 | BF | Electric Distribution Patrols and Inspections | BFG | OH Line Equipment Insp/Test | RAMP Risk: WF Control / DOCP Control | C1 - OH Patrols and Inspections / C6 - OH Patrols and Inspections | 4-6 | $ 2,816.0 | $ 2,836.1 | $ 20.1 | 0.7% | 24,288 | 24,424 | 136 | 0.6% | N/A | N/A | N/A | N/A | N/A |
| 40 | BF | Electric Distribution Patrols and Inspections | BFH | Inspection Projects | SRM Total | SRM Total | 4-6 | $ 2,797.4 | $ 27,309.1 | $ 24,511.7 | 876.2% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenses exceeded imputed regulatory values due to increased contractor spend for inspections, and enhanced inspections support costs. | N/A |
| 41 | BF | Electric Distribution Patrols and Inspections | BFH | Inspection Projects | RAMP Risk: WF Control / DOCP Control | C1 - OH Patrols and Inspections / C6 - OH Patrols and Inspections | 4-6 | $ 2,797.4 | $ 27,309.1 | $ 24,511.7 | 876.2% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 42 | BF | Electric Distribution Patrols and Inspections | BFJ | OH Patrol ORT Post Outage | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 432.0 | $ 128.2 | $ (303.8) | -70.3% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 43 | BF | Electric Distribution Patrols and Inspections | BFL | SB WF Patrols | SRM Total | SRM Total | 4-6 | $ - | $ 0.2 | $ 0.2 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 44 | BF | Electric Distribution Patrols and Inspections | BFL | SB WF Patrols | RAMP Risk: WF Control / DOCP Control | C1 - OH Patrols and Inspections / C6 - OH Patrols and Inspections | 4-6 | $ - | $ 0.2 | $ 0.2 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 45 | BH | Electric Distribution Routine Emergency | N/A | Not assigned | SRM Total | SRM Total | 4-6 | $ 58,922.5 | $ 92,047.0 | $ 33,124.4 | 56.2% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenses exceeded imputed regulatory values due to higher than forecast volume of emergency events, driving higher overall contract spend, higher estimating over head costs, and higher labor charges. Additional expense include costs for EPSS post-outage patrols. | N/A |
| 46 | BH | Electric Distribution Routine Emergency | N/A | Not assigned | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ - | $ 12,657.7 | $ 12,657.7 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 47 | BH | Electric Distribution Routine Emergency | N/A | Not assigned | SRM (Non-RAMP) | SRM (Non-RAMP) | 4-6 | $ 58,922.5 | $ 79,389.2 | $ 20,466.7 | 34.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 48 | BK | Maintenance of Other Equip | BKA | Line Equipment Overhauls (Emeryville) | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 1,235.6 | $ 1,800.2 | $ 564.6 | 45.7% | 1,175 | 971 | (204) | -17.4% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 49 | BK | Maintenance of Other Equip | BKJ | Line Equipment Overhauls (Division Up/Down Labor) (Emeryville) | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 408.2 | $ 177.9 | $ (230.4) | -56.4% | 89 | 17 | (72) | -80.9% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to a combination of demand from the field for overhauled equipment, manufacturer availability, and work priorities. Field demand for Regulators was low and new Regulators were available for purchase. Field demand for transformers was high and manufacturer availability was negatively impacted by supply chain issues. |
| 50 | BK | Maintenance of Other Equip | BKK | Equip Warranty Repair (Emeryville) | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 63.2 | $ 120.3 | $ 57.1 | 90.4% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 51 | DD | Customer Field Service Work | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-5 | $ 5,974.5 | $ 6,488.0 | $ 513.5 | 8.6% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 52 | DD | Customer Field Service Work | DDC | Electric Start/Stop | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-5 | $ - | $ 349.2 | $ 349.2 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 53 | DD | Customer Field Service Work | DDH | Electric Trouble Customer Equipment | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-5 | $ 5,941.6 | $ 5,386.2 | $ (555.4) | -9.3% | 47,535 | 29,982 | (17,553) | -36.9% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to fewer outages caused by customer equipment in 2021. 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. |
| 54 | DD | Customer Field Service Work | DDJ | Swing Service, Disconnects/Reconnects | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-5 | $ 9,081.1 | $ 13,029.9 | $ 3,948.8 | 43.5% | 80,818 | 86,950 | 6,132 | 7.6% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 55 | EY | Change/Maintenance Used Electric Meter | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 6-6 | $ - | $ 6,550.7 | $ 6,550.7 | 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. | N/A |

# TABLE 3-3
# ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 56 | FZ | Electric Distribution Engineering and Planning | FZA | General Engineering | SRM Total | SRM Total | 4-14 | $ 14,837.3 | $ 13,567.7 | $ (1,269.6) | -8.6% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 57 | FZ | Electric Distribution Engineering and Planning | FZA | General Engineering | RAMP Risk: DOCP Control | C10 - Annual Protection Reviews | 4-14 | $ 14,837.3 | $ 11,239.7 | $ (3,597.6) | -24.2% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 58 | FZ | Electric Distribution Engineering and Planning | FZA | General Engineering | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ - | $ 2,328.0 | $ 2,328.0 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 59 | FZ | Electric Distribution Engineering and Planning | FZB | Voltage Complaints Investigations | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-14 | $ 607.0 | $ 1,610.8 | $ 1,003.8 | 165.4% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 60 | FZ | Electric Distribution Engineering and Planning | FZC | Transformer Reports Manage | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-14 | $ 14.4 | $ 37.1 | $ 22.6 | 156.6% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 61 | FZ | Electric Distribution Engineering and Planning | FZD | Field Work Plan | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-14 | $ 591.1 | $ 115.3 | $ (475.8) | -80.5% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 62 | FZ | Electric Distribution Engineering and Planning | FZE | Troublemen Field Work | SRM Total | SRM Total | 4-14 | $ 1,427.7 | $ 3,136.0 | $ 1,708.3 | 119.7% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 63 | FZ | Electric Distribution Engineering and Planning | FZE | Troublemen Field Work | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ - | $ 650.6 | $ 650.6 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | N/A | N/A |
| 64 | FZ | Electric Distribution Engineering and Planning | FZE | Troublemen Field Work | SRM (Non-RAMP) | SRM (Non-RAMP) | 4-14 | $ 1,427.7 | $ 2,485.4 | $ 1,057.7 | 74.1% | N/A | N/A | N/A | N/A | NO | NO | N/A | N/A | N/A |
| 65 | GA | Poles – Intrusive Inspection/Test and Treat Program | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-8 | $ (4,294.3) | $ (5,301.0) | $ (1,006.6) | 23.4% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 66 | GA | Poles – Intrusive Inspection/Test and Treat Program | GAA | Intrusive Inspection Program | SRM Total | SRM Total | 4-8 | $ 12,751.8 | $ 17,628.5 | $ 4,876.8 | 38.2% | 246,252 | 217,211 | (29,041) | -11.8% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 67 | GA | Poles – Intrusive Inspection/Test and Treat Program | GAA | Intrusive Inspection Program | RAMP Risk: WF Control | C9 - Deteriorated Pole Replacement | 4-8 | $ 12,751.8 | $ 17,628.5 | $ 4,876.8 | 38.2% | 246,252 | 217,211 | (29,041) | -11.8% | NO | NO | NO | N/A | N/A |
| 68 | GA | Poles – Intrusive Inspection/Test and Treat Program | GAB | Pole Joint Util Maint Reimbursement | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-8 | $ - | $ 84.2 | $ 84.2 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 69 | GA | Poles – Intrusive Inspection/Test and Treat Program | GAC | Pole Analyze Loading | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-8 | $ - | $ 20,874.1 | $ 20,874.1 | 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. | N/A |
| 70 | GA | Poles – Intrusive Inspection/Test and Treat Program | GAD | Pole Restoration Program | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-8 | $ 5,026.7 | $ 2,800.1 | $ (2,226.5) | -44.3% | 5,464 | 3,371 | (2,093) | -38.3% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to pole reinforcements being demand-driven work. In 2021, PG&E identified less poles to be reinforced in 2021 than originally forecast. |
| 71 | GA | Poles – Intrusive Inspection/Test and Treat Program | GAF | Telco Engr Review Non-Reimbursed | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-8 | $ 167.3 | $ - | $ (167.3) | -100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 72 | 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 | $ 278.8 | $ 278.2 | $ (0.6) | -0.2% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 73 | GC | Operate and Maintain Substations | GC1 | ED Substation Engineering Maintenance Support | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 4,610.3 | $ 5,801.8 | $ 1,191.5 | 25.8% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 74 | GC | Operate and Maintain Substations | GC2 | ED Substation Major Emergency Corrective Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 4,825.0 | $ 5,351.6 | $ 526.7 | 10.9% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 75 | GC | Operate and Maintain Substations | GC5 | ED Substation Major Emergency Corrective Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ - | $ 3,251.8 | $ 3,251.8 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |

# TABLE 3-3
# ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 | GC | Operate and Maintain Substations | GCA | ED Substation: TXfmr - Preventive Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 901.4 | $ 928.3 | $ 27.0 | 3.0% | 4,311 | 4,302 | (9) | -0.2% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 77 | GC | Operate and Maintain Substations | GCB | ED Substation: Breaker - Preventive Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 761.6 | $ 780.7 | $ 19.0 | 2.5% | 1,791 | 1,279 | (512) | -28.6% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to fewer breaker units requiring preventive maintenance. The GCB preventive maintenance tags are dispatched based on static counter operation data. When counter operations are recorded in SAP, the exercise requirement detailed in the maintenance standard is satisfied. |
| 78 | GC | Operate and Maintain Substations | GCC | ED Substation: Relay - Preventive Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 2,221.1 | $ 2,509.6 | $ 288.6 | 13.0% | 1,177 | 1,213 | 36 | 3.1% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 79 | GC | Operate and Maintain Substations | GCD | ED Substation: Inspections | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 2,624.1 | $ 3,159.7 | $ 535.6 | 20.4% | 8,002 | 6,916 | (1,086) | -13.6% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 80 | GC | Operate and Maintain Substations | GCE | ED Substation: General station Preventive Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 448.4 | $ 547.4 | $ 99.0 | 22.1% | 1,014 | 1,460 | 446 | 44.0% | NO | NO | YES | Below variance threshold | Actual units exceeded imputed regulatory units primarily driven by an increase in infrared inspections triggered by condition. |
| 81 | GC | Operate and Maintain Substations | GCF | ED Substation: Batteries - Preventive Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 305.9 | $ 468.1 | $ 162.3 | 53.1% | 646 | 622 | (24) | -3.7% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 82 | GC | Operate and Maintain Substations | GCG | ED Substation Vegetation Management | SRM Total | SRM Total | 4-12 | $ 1,518.0 | $ 9,733.7 | $ 8,215.8 | 541.2% | N/A | N/A | N/A | N/A | NO | YES | N/A | Program expenses exceeded imputed regulatory values due to an expansion of vegetation management activities to achieve defensible space and other clearance activities in HFTD areas. | N/A |
| 83 | GC | Operate and Maintain Substations | GCG | ED Substation Vegetation Management | RAMP Risk: WF Control / DOCP Control | C2 - Vegetation Management / C2 - Vegetation Management | 4-12 | $ 1,518.0 | $ 9,733.7 | $ 8,215.8 | 541.2% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 84 | GC | Operate and Maintain Substations | GCH | ED Substation Building Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 976.1 | $ 2,684.4 | $ 1,708.3 | 175.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 85 | GC | Operate and Maintain Substations | GCI | ED Substation: Switches Preventive Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 62.9 | $ 134.5 | $ 71.7 | 114.0% | 91 | 101 | 10 | 11.0% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 86 | GC | Operate and Maintain Substations | GCJ | ED Substation: Corrective (T80) | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 7,656.4 | $ 11,998.4 | $ 4,342.0 | 56.7% | 7,469 | 5,442 | (2,027) | -27.1% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to fewer issues identified than planned in substations. This reduction is in part attributed to corrective repairs made because of Enhanced Inspection findings under MAT code GC2 that would have been identified under GCJ. In addition, there is overall variability in corrective work. |
| 87 | GC | Operate and Maintain Substations | GCM | ED Substation Breaker Mechanism Services | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 844.0 | $ 1,594.8 | $ 750.8 | 89.0% | 441 | 748 | 307 | 69.6% | NO | NO | YES | Below variance threshold | Actual units exceeded imputed regulatory units due to additional condition driven mechanism services. |
| 88 | GC | Operate and Maintain Substations | GCO | ED Substation Transformer Overhaul Inspections | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 1,522.8 | $ 891.8 | $ (631.0) | -41.4% | 160 | 74 | (86) | -53.8% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to fewer transformer overhauls triggered based on condition. |
| 89 | GC | Operate and Maintain Substations | GCS | ED Substation CKSW MOAS Mechanism Services | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 119.2 | $ 221.4 | $ 102.2 | 85.7% | 49 | 79 | 30 | 61.2% | NO | NO | YES | Below variance threshold | Actual units exceeded imputed regulatory units due to additional condition driven mechanism services. |
| 90 | GC | Operate and Maintain Substations | GCV | ED Substation Breaker Overhauls | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 85.2 | $ 41.3 | $ (43.9) | -51.5% | 17 | 10 | (7) | -41.2% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to fewer breaker overhauls triggered based on condition. |
| 91 | GC | Operate and Maintain Substations | GCW | ED Substation Station Washes | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 408.2 | $ 472.1 | $ 63.9 | 15.7% | 444 | 390 | (54) | -12.2% | NO | NO | NO | Below variance threshold | Below variance threshold |

**TABLE 3-3**
**ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 | GE | Electric Distribution Mapping | GEO | Mapping | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-18 | $ 6,031.6 | $ 12,334.1 | $ 6,302.5 | 104.5% | N/A | N/A | N/A | N/A | NO | YES | N/A | Program expenses exceeded imputed regulatory values due to: (1) expenses to develop and implement PG&E's Asset Data Management Plan, data management standards, tools, analytic products, and data quality improvement projects, and (2) wildfire-related expenses from programs created to improve wildfire related data, develop wildfire analytic products and respond to wildfire related data requirements including the Wildfire Safety Division GIS Data Standard. | N/A |
| 93 | GE | Electric Distribution Mapping | GEP | Records Management | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-18 | $ - | $ 4,354.0 | $ 4,354.0 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 94 | HG | Electric Distribution Operational Technology | # | Not assigned | SRM Total | SRM Total | 4-5, 4-19 | $ 11,158.6 | $ 61.1 | $ (11,097.5) | -99.5% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenses were below imputed regulatory values because work was recorded in new MAT codes HGC and HGD. Actual 2021 costs across both HGC and HGD were less than the Imputed Adopted 2021 cost in HG# because costs within the ADMS program were more capital intensive than anticipated. | N/A |
| 95 | HG | Electric Distribution Operational Technology | # | Not assigned | RAMP Risk: WF Mitigation | M15 - Automation and Protection | 4-5 | $ 357.7 | $ 58.8 | $ (298.9) | -83.6% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 96 | HG | Electric Distribution Operational Technology | # | Not assigned | SRM (Non-RAMP) | SRM (Non-RAMP) | 4-5 | $ 10,801.0 | $ 2.3 | $ (10,798.7) | -100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 97 | HG | Electric Distribution Operational Technology | HGC | ADMS Development | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-19 | $ - | $ 2,939.3 | $ 2,939.3 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 98 | HG | Electric Distribution Operational Technology | HGD | Distribution Operational Technology | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-5 | $ - | $ 4,249.5 | $ 4,249.5 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 99 | HN | Vegetation Management Balancing Account | HN (a) | Tree Trim - Routine | SRM Total | SRM Total | 4-7 | $ 252,197.3 | $ 682,524.8 | $ 430,327.5 | 170.6% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenses exceeded imputed regulatory values due to PG&E contractors conducting more work on tree bundles than planned caused primarily by extreme drought and fire season conditions. Other factors contributing to higher costs include Senate Bill 247, transitioning contractor workers to internal employees, unionization of inspection workforce, enhanced contractor safety requirements and increased safety oversight. | N/A |
| 100 | HN | Vegetation Management Balancing Account | HN (a) | Tree Trim - Routine | RAMP Risk: WF Control / DOCP Control | C2 - Vegetation Management / C2 - Vegetation Management | 4-7 | $ 251,056.7 | $ 682,058.0 | $ 431,001.3 | 171.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 101 | HN | Vegetation Management Balancing Account | HN (a) | Tree Trim - Routine | RAMP Risk: WF Control / DOCP Control | C2 - Vegetation Management / C1 - Public Awareness Program | 4-7 | $ 1,140.6 | $ 466.8 | $ (673.9) | -59.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 102 | HX | Distribution Automation & Protection Support | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-10 | $ 2,099.7 | $ 2,452.2 | $ 352.5 | 16.8% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 103 | HY | Perform Gas Meter Maintenance | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 6-6 | $ - | $ 558.0 | $ 558.0 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 104 | IF | Electric Distribution Major Emergency | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-4 | $ 34,647.9 | $ 146,946.2 | $ 112,298.3 | 324.1% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenses exceeded imputed regulatory values due to large weather events that took place in 2021. This program utilizes a 5 year average to forecast, however in 2021 the events that took place were larger than anything seen in the past 5 years. Hence the variance reflects the impacts of these storms. | N/A |

# TABLE 3-3
# ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | IG | Various Balancing and Memorandum Accounts | # | Not assigned | SRM Total | SRM Total | N/A | $ - | $ 87,983.3 | $ 87,983.3 | 100.0% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenses exceeded imputed regulatory values (which was not forecast as a part of the 2020 GRC and thus did not have an imputed value) due to activities needed to deliver technology solutions (IT Asset Risk Program, Data Enablement Program) that support wildfire mitigation efforts as well as incremental IT Operations and Maintenance costs (labor and contracts) resulting from the solutions delivered as part of the technology project investments. Program expenses also include costs for temporary generation and other support for PSPS events. | N/A |
| 106 | IG | Various Balancing and Memorandum Accounts | # | Not assigned | RAMP Risk: WF Mitigation | M13 - Public Safety Power Shutoff | 4-3 | $ - | $ 10,814.4 | $ 10,814.4 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 107 | IG | Various Balancing and Memorandum Accounts | # | Not assigned | RAMP Risk: WF Mitigation | M18 - Wildfire Safety Operations Center | 4-3 | $ - | $ (0.6) | $ (0.6) | -100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 108 | IG | Various Balancing and Memorandum Accounts | # | Not assigned | RAMP Risk: WF Mitigation | M24 - Enhanced Wire Down Detection | 4-3 | $ - | $ 2.2 | $ 2.2 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 109 | IG | Various Balancing and Memorandum Accounts | # | Not assigned | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations: IT Decentralized Wildfire | N/A | $ - | $ 33,823.0 | $ 33,823.0 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 110 | IG | Various Balancing and Memorandum Accounts | # | Not assigned | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ - | $ 43,344.0 | $ 43,344.0 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 111 | IG | Various Balancing and Memorandum Accounts | IGI | Dead and Dying Trees | SRM Total | SRM Total | 4-7 | $ - | $ 87,022.4 | $ 87,022.4 | 100.0% | N/A | N/A | N/A | N/A | YES | YES | 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. | N/A |
| 112 | IG | Various Balancing and Memorandum Accounts | IGI | Dead and Dying Trees | RAMP Risk: WF Control / DOCP Control | C3 - Catastrophic Event Memorandum Account - Vegetation Management / C3 - Catastrophic Event Memorandum Account - Vegetation Management | 4-7 | $ - | $ 87,022.4 | $ 87,022.4 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 113 | IG | Various Balancing and Memorandum Accounts | IGJ (a) | Enhanced Vegetation Management | SRM Total | SRM Total | 4-7 | $ 350,616.5 | $ 770,434.5 | $ 419,818.0 | 119.7% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenses exceeded imputed regulatory values for Enhanced VM due to completing more work than forecast. PG&E patrolled and inventoried more miles of trees than planned caused primarily by extreme drought and fire season conditions along with increased use of the Tree Assessment Tool. Other contributing factors included Senate Bill 247, higher contractor costs and increased costs for wood management. | N/A |
| 114 | IG | Various Balancing and Memorandum Accounts | IGJ (a) | Enhanced Vegetation Management | RAMP Risk: WF Mitigation / DOCP Mitigation | M16 - Enhanced VM M8- Enhanced VM Fuel Reduction | 4-7 | $ 350,616.5 | $ 770,434.5 | $ 419,818.0 | 119.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 115 | IS | Streetlight Support | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-18 | $ 1,107.8 | $ 664.5 | $ (443.3) | -40.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 116 | IU | Collect Revenue | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 6-6 | $ - | $ 1,855.6 | $ 1,855.6 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 117 | JV | Maintain IT Applications & Infrastructure | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-15 | $ 5,361.2 | $ 2,300.6 | $ (3,060.6) | -57.1% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 118 | KA | Preventive Maintenance and Equipment Repair, OH | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 741.8 | $ 318.3 | $ (423.5) | -57.1% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |

**TABLE 3-3**
**ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 119 | KA | Preventive Maintenance and Equipment Repair, OH | KAA | OH General CM Tag | SRM Total | SRM Total | 4-6 | $ 19,074.5 | $ 89,786.3 | $ 70,711.8 | 370.7% | 31,412 | 37,211 | 5,799 | 18.5% | YES | YES | NO | Program expenses exceeded imputed regulatory values due to higher unit costs, as limited resources were available which required contractor resources to complete tasks. Also, more tags were completed to address Wildfire Risk. | Below variance threshold |
| 120 | KA | Preventive Maintenance and Equipment Repair, OH | KAA | OH General CM Tag | RAMP Risk: WF Control / DOCP Control | C8 - OH Equipment Replacement / C4 - OH ED Preventive Maintenance | 4-6 | $ 19,074.5 | $ 89,786.3 | $ 70,711.8 | 370.7% | 31,412 | 37,211 | 5,799 | 18.5% | N/A | N/A | N/A | N/A | N/A |
| 121 | KA | Preventive Maintenance and Equipment Repair, OH | KAC | Bird Safe Retrofit | SRM Total | SRM Total | 4-6 | $ 758.4 | $ 956.6 | $ 198.3 | 26.1% | 1,013 | 591 | (422) | -41.7% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory 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. |
| 122 | KA | Preventive Maintenance and Equipment Repair, OH | KAC | Bird Safe Retrofit | RAMP Risk: WF Control / DOCP Control | C6 - Animal Abatement / C4 - OH ED Preventive Maintenance | 4-6 | $ 758.4 | $ 956.6 | $ 198.3 | 26.1% | 1,013 | 591 | (422) | -41.7% | N/A | N/A | N/A | N/A | N/A |
| 123 | KA | Preventive Maintenance and Equipment Repair, OH | KAD | Bird Safe Retrofit Annual | SRM Total | SRM Total | 4-6 | $ 748.6 | $ 569.4 | $ (179.2) | -23.9% | 1,000 | 223 | (777) | -77.7% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory 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. |
| 124 | KA | Preventive Maintenance and Equipment Repair, OH | KAD | Bird Safe Retrofit Annual | RAMP Risk: WF Control / DOCP Control | C6 - Animal Abatement / C4 - OH ED Preventive Maintenance | 4-6 | $ 748.6 | $ 569.4 | $ (179.2) | -23.9% | 1,000 | 223 | (777) | -77.7% | N/A | N/A | N/A | N/A | N/A |
| 125 | KA | Preventive Maintenance and Equipment Repair, OH | KAF | OH COE CM Tag | SRM Total | SRM Total | 4-6 | $ 7,347.2 | $ 7,786.8 | $ 439.7 | 6.0% | 1,419 | 1,358 | (61) | -4.3% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 126 | KA | Preventive Maintenance and Equipment Repair, OH | KAF | OH COE CM Tag | RAMP Risk: WF Control | C8 - OH Equipment Replacement | 4-6 | $ 7,347.2 | $ 7,786.8 | $ 439.7 | 6.0% | 1,419 | 1,358 | (61) | -4.3% | N/A | N/A | N/A | N/A | N/A |
| 127 | KA | Preventive Maintenance and Equipment Repair, OH | KAH | Streetlights Replace Burnouts | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 2,232.5 | $ 1,662.7 | $ (569.8) | -25.5% | 14,702 | 7,085 | (7,617) | -51.8% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to less than expected burnouts of streetlights as a results of previous conversions to LEDs. |
| 128 | KA | Preventive Maintenance and Equipment Repair, OH | KAK | RTVI Invest/Repair | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 109.0 | $ 77.6 | $ (31.4) | -28.8% | 144 | 128 | (16) | -11.1% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 129 | KA | Preventive Maintenance and Equipment Repair, OH | KAM | Insulators Washing | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 211.6 | $ 246.5 | $ 34.8 | 16.5% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 130 | KA | Preventive Maintenance and Equipment Repair, OH | KAO | Idle Facilities Invest - Svc Planning | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 183.6 | $ 1,857.0 | $ 1,673.4 | 911.5% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 131 | KA | Preventive Maintenance and Equipment Repair, OH | KAP | OH Expense Projects | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ - | $ 2,497.8 | $ 2,497.8 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 132 | KA | Preventive Maintenance and Equipment Repair, OH | KAQ | Wood Pole Bridge Bonding | SRM Total | SRM Total | 4-6 | $ 27.9 | $ 77.0 | $ 49.1 | 176.4% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |

# TABLE 3-3
# ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 133 | KA | Preventive Maintenance and Equipment Repair, OH | KAQ | Wood Pole Bridge Bonding | RAMP Risk: WF Control | C10 - Wood Pole Bridging | 4-6 | $ 27.9 | $ 77.0 | $ 49.1 | 176.4% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 134 | KA | Preventive Maintenance and Equipment Repair, OH | KAS | FAS Overhead Expense | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 1,844.0 | $ 1,902.1 | $ 58.1 | 3.2% | 10,333 | 9,938 | (395) | -3.8% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 135 | KB | Preventive Maintenance and Equipment Repair, UG | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 659.8 | $ 86.4 | $ (573.5) | -86.9% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 136 | KB | Preventive Maintenance and Equipment Repair, UG | KBA | UG General Corrective Maintenance (CM) Tag | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 11,058.8 | $ 18,813.9 | $ 7,755.1 | 70.1% | 6,188 | 5,345 | (843) | -13.6% | NO | YES | NO | Program expenses exceeded imputed regulatory values due to higher unit costs, as limited resources were available which required contractor resources to complete tasks. | Below variance threshold |
| 137 | KB | Preventive Maintenance and Equipment Repair, UG | KBC | UG COE CM Tag | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 874.5 | $ 1,353.5 | $ 479.0 | 54.8% | 248 | 145 | (103) | -41.5% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to prioritization of resources to Tier 2 and Tier 3 HFTD area repairs and replacement work. |
| 138 | KB | Preventive Maintenance and Equipment Repair, UG | KBD | Nitrogen Cylinders CM | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 21.9 | $ 10.0 | $ (11.9) | -54.4% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 139 | KB | Preventive Maintenance and Equipment Repair, UG | KBE | BART Cable Repair | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 61.4 | $ 8.6 | $ (52.8) | -86.1% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 140 | KB | Preventive Maintenance and Equipment Repair, UG | KBP | UG Expense Projects | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 159.1 | $ 148.9 | $ (10.2) | -6.4% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 141 | KC | Preventive Maintenance and Equipment Repair, Network | KCA | Network Equip CM Notifications | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 157.8 | $ 184.7 | $ 26.9 | 17.0% | 75 | 46 | (29) | -38.7% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to lower number of units of network equipment identified as needing preventive repair in order to maintain a safe and reliable distribution network system. |
| 142 | KC | Preventive Maintenance and Equipment Repair, Network | KCB | Network Oil Repl & 60Day F/U | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 32.3 | $ 100.5 | $ 68.2 | 210.9% | 27 | 176 | 149 | 551.9% | NO | NO | YES | Below variance threshold | Actual units exceeded imputed regulatory units due to increased oil replacement activities related to transformer retrofits. |
| 143 | KC | Preventive Maintenance and Equipment Repair, Network | KCC | Network Vault CM Notifications | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 163.9 | $ 92.4 | $ (71.5) | -43.6% | 79 | 10 | (69) | -87.3% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to decreased number of troubled units reported and repaired to correct problems. |
| 144 | KC | Preventive Maintenance and Equipment Repair, Network | KCD | Network Xfmr Preventive Maintenance/Restore | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 2,545.8 | $ 2,795.2 | $ 249.3 | 9.8% | 3,618 | 3,540 | (78) | -2.2% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 145 | KC | Preventive Maintenance and Equipment Repair, Network | KCE | Network Protector Preventive Maintenance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 628.7 | $ 714.6 | $ 85.9 | 13.7% | 390 | 468 | 78 | 20.0% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 146 | KC | Preventive Maintenance and Equipment Repair, Network | KCF | Fiber/SCADA Comm Repair | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 602.1 | $ 673.4 | $ 71.4 | 11.9% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |

Notes:
(a) The 2020 GRC adopted amounts for PG&E's Vegetation Management Program, including both Routine Vegetation Management (MWC HN) and Enhanced Vegetation Management (MAT lGJ), were adopted in MWC HN. In this report PG&E is showing the imputed adopted portion to where the activity is recorded.

# TABLE 3-4
# ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 | $ 7,815.6 | $ 6,573.7 | $ (1,241.9) | -15.9% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 2 | 06 | Electric Distribution Line and Equipment | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 7,200.5 | $ 10,434.2 | $ 3,233.7 | 44.9% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 3 | 06 | Electric Distribution Line and Equipment Capacity | 06A | Fdr Prj Assoc w/Subst Capacity | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 6,659.3 | $ 35,916.7 | $ 29,257.4 | 439.4% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to completion in 2021 of capacity projects from previous years that were rescheduled due to emergency repair and wildfire hardening work. | N/A |
| 4 | 06 | Electric Distribution Line and Equipment Capacity | 06B | Transformer Repl Overloaded | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 681.7 | $ 1,535.5 | $ 853.8 | 125.2% | 49 | 34 | (15) | -30.6% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to less overhead transformer replacement work as a consequence of work deferral and resource constraints owing to focus on wildfire mitigation and maintenance work. |
| 5 | 06 | Electric Distribution Line and Equipment | 06D | Circuits Reinforce-DP Managed | SRM Total | SRM Total | 4-13 | $ 3,512.9 | $ 2,485.9 | $ (1,027.0) | -29.2% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 6 | 06 | Electric Distribution Line and Equipment | 06D | Circuits Reinforce-DP Managed | RAMP Risk: DOCP Control | C11 - ED Line and Equipment Capacity | 4-13 | $ 3,512.9 | $ 2,485.9 | $ (1,027.0) | -29.2% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 7 | 06 | Electric Distribution Line and Equipment | 06E | Circuits Reinforce-PS Managed | SRM Total | SRM Total | 4-13 | $ 18,950.5 | $ 21,412.4 | $ 2,461.9 | 13.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 8 | 06 | Electric Distribution Line and Equipment | 06E | Circuits Reinforce-PS Managed | RAMP Risk: DOCP Control | C11 - ED Line and Equipment Capacity | 4-13 | $ 18,950.5 | $ 21,412.4 | $ 2,461.9 | 13.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 9 | 06 | Electric Distribution Line and Equipment | 06G | Voltage Correct Secondary | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 3,294.8 | $ 4,139.4 | $ 844.6 | 25.6% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 10 | 06 | Electric Distribution Line and Equipment Capacity | 06H | Dist Line New Business Performance | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 45,521.4 | $ 74,289.7 | $ 28,768.3 | 63.2% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to completion in 2021 of capacity projects from previous years that were rescheduled due to emergency repair and wildfire hardening work as well as an increase in the number of new business applications for service that required capacity work to serve these loads. | N/A |
| 11 | 06 | Electric Distribution Line and Equipment | 06I | Operational Capacity Proj | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 3,575.1 | $ 6,075.5 | $ 2,500.4 | 69.9% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 12 | 06 | Electric Distribution Line and Equipment | 06K | Power Factor Management | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 1,129.3 | $ 281.9 | $ (847.4) | -75.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 13 | 06 | Electric Distribution Line and Equipment | 06P | Enable DG Dist Line | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 1,357.4 | $ 474.9 | $ (882.4) | -65.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 14 | 07 | Electric Distribution Install/Replace Overhead Poles | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-8 | $ - | $ 3,070.9 | $ 3,070.9 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 15 | 07 | Electric Distribution Install/Replace Overhead Poles | 07A | Tree Connect VM Assessments | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-8 | $ - | $ 768.0 | $ 768.0 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 16 | 07 | Electric Distribution Install/Replace Overhead Poles | 07C | Special Criteria Pole Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-8 | $ - | $ 11,721.3 | $ 11,721.3 | 100.0% | 0 | 397 | 397 | 100.0% | NO | YES | YES | Program expenditures exceeded imputed regulatory values due to implementation of new tree attachment program not included in the 2020 GRC, which installs new clearance poles and transfers PG&E distribution facilities from the declining tree to the new pole. | Actual units were higher than imputed regulatory units due to implementation of new tree attachment program not included in the 2020 GRC, which installs new clearance poles and transfers PG&E distribution facilities from the declining tree to the new pole. |
| 17 | 07 | Electric Distribution Install/Replace Overhead Poles | 07D | Pole Replacement | SRM Total | SRM Total | 4-8 | $ 109,236.7 | $ 379,165.6 | $ 269,929.0 | 247.1% | 7,779 | 15,584 | 7,805 | 100.3% | YES | YES | YES | Program expenditures exceeded imputed regulatory values due to higher volume of deteriorated units identified during the 2019 WSIP and 2020 enhanced 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 regulatory units due to higher volume of deteriorated units identified during the 2019 WSIP and 2020 enhanced inspections. The additional units identified were in HFTDs and the program was expanded to increase replacements in efforts to reduce overall system risk. |

**TABLE 3-4**
**ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 | 07 | Electric Distribution Install/Replace Overhead Poles | 07D | Pole Replacement | RAMP Risk: WF Control | C9 - Deteriorated Pole Replacement | 4-8 | $ 109,236.7 | $ 379,165.6 | $ 269,929.0 | 247.1% | 7,779 | 15,584 | 7,805 | 100.3% | N/A | N/A | N/A | N/A | N/A |
| 19 | 07 | Electric Distribution Install/Replace Overhead Poles | 07G | Pole Joint Util Telco Reimb | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-8 | $ - | $ 40.1 | $ 40.1 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 20 | 07 | Electric Distribution Install/Replace Overhead Poles | 07L | Steel Lattice Structures | SRM Total | SRM Total | 4-8 | $ - | $ 657.4 | $ 657.4 | 100.0% | 0 | 1 | 1 | 100.0% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to no work forecast for steel lattice structures in the 2020 GRC. |
| 21 | 07 | Electric Distribution Install/Replace Overhead Poles | 07L | Steel Lattice Structures | RAMP Risk: WF Control | C9 - Deteriorated Pole Replacement | 4-8 | $ - | $ 657.4 | $ 657.4 | 100.0% | 0 | 1 | 1 | 100.0% | N/A | N/A | N/A | N/A | N/A |
| 22 | 07 | Electric Distribution Install/Replace Overhead Poles | 07O | Overloaded Pole Replacements | SRM Total | SRM Total | 4-8 | $ - | $ 19,404.2 | $ 19,404.2 | 100.0% | 0 | 563 | 563 | 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. | Actual units were higher than imputed regulatory units due to the forecast for overloaded poles being in MAT 07D in the 2020 GRC. In addition, actual units were higher than imputed regulatory units due to higher volume of overloaded units identified during the 2019 WSIP and 2020 enhanced inspections. The additional units identified were in HFTDs and the program was expanded to increase replacements in efforts to reduce overall system risk. |
| 23 | 07 | Electric Distribution Install/Replace Overhead Poles | 07O | Overloaded Pole Replacements | RAMP Risk: WF Control | C9 - Deteriorated Pole Replacement | 4-8 | $ - | $ 19,404.2 | $ 19,404.2 | 100.0% | 0 | 563 | 563 | 100.0% | N/A | N/A | N/A | N/A | N/A |
| 24 | 08 | Electric Distribution Overhead Asset Replacement | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-9 | $ - | $ (487.8) | $ (487.8) | -100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 25 | 08 | Electric Distribution Overhead Asset Replacement | 08D | Do Not Use - Cornerstone | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-9 | $ - | $ 1.2 | $ 1.2 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 26 | 08 | Electric Distribution Overhead Asset Replacement | 08E | Do Not Use - Cornerstone DA Control Upgrade | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-9 | $ - | $ (0.7) | $ (0.7) | -100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 27 | 08 | Electric Distribution Overhead Asset Replacement | 08J | Repl Deteriorated OH Conductor | SRM Total | SRM Total | 4-9 | $ 52,956.9 | $ 29,869.8 | $ (23,087.1) | -43.6% | 97 | 34 | (63) | -64.9% | YES | YES | YES | Program expenditures were below imputed regulatory values due to lower units executed. | Actual units were lower than imputed regulatory units due to supporting higher risk and higher priority work such as System Hardening, WSIP tags, pole replacement, and PSPS that shifted out conductor replacements. |
| 28 | 08 | Electric Distribution Overhead Asset Replacement | 08J | Repl Deteriorated OH Conductor | RAMP Risk: WF Control / DOCP Control | C5 - OH Conductor Replacement / C5 - OH Conductor Replacement | 4-9 | $ 52,956.9 | $ 29,869.8 | $ (23,087.1) | -43.6% | 97 | 34 | (63) | -64.9% | N/A | N/A | N/A | N/A | N/A |
| 29 | 08 | Electric Distribution Overhead Asset Replacement | 08S | Replace Obsolete OH Switches | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-9 | $ 1,123.8 | $ 426.0 | $ (697.8) | -62.1% | 30 | 6 | (24) | -80.0% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to supporting higher risk and higher priority work such as System Hardening, WSIP tags, pole replacement, and PSPS that shifted out switch replacements. |
| 30 | 08 | Electric Distribution Overhead Asset Replacement | 08W | System Hardening Wildfire Resiliency projects | SRM Total | SRM Total | 4-9 | $ 822,167.0 | $ 319,496.0 | $ (502,671.0) | -61.1% | 358 | 242 | (117) | -32.5% | YES | YES | YES | Program expenditures were below imputed regulatory values due to improvements in modeling tool, data, and understanding of fire risks leading to shift in thinking about where to target system hardening resources. PG&E changed course, stopped previously selected projects, and started different projects that are in alignment with updated risk model. The miles targeted in 2021 represent a greater risk reduction value than previously planned work plan. PG&E used 2021 to rebuild our pipeline of projects in alignment with the new risk model that are identified, vetted, designed, and permitted for future construction. | Actual units were lower than imputed units due to improvements in modeling tool, data, and understanding of fire risks leading to shift in thinking about where to target system hardening resources. PG&E changed course, stopped previously selected projects, and started different projects that are in alignment with updated risk model. The miles targeted in 2021 represent a greater risk reduction value than previously planned work plan. |

**TABLE 3-4**
**ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 08 | Electric Distribution Overhead Asset Replacement | 08W | System Hardening Wildfire Resiliency projects | RAMP Risk: WF Control / DOCP Control | C5 - OH Conductor Replacement/ C5 - Overhead Conductor Replacement | 4-9 | $ - | $ 10.1 | $ 10.1 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 32 | 08 | Electric Distribution Overhead Asset Replacement | 08W | System Hardening Wildfire Resiliency projects | RAMP Risk: WF Mitigation | M12 - Wildfire System Hardening | 4-9 | $ 822,167.0 | $ 319,485.9 | $ (502,681.1) | -61.1% | 358 | 242 | (117) | -32.5% | N/A | N/A | N/A | N/A | N/A |
| 33 | 09 | Electric Distribution Automation & Protection | 09A/49A (a) | ED Line SCADA Install/Replace | SRM Total | SRM Total | 4-10 | $ 5,664.9 | $ (250.7) | $ (5,915.7) | -104.4% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 34 | 09 | Electric Distribution Automation & Protection | 09A/49A (a) | ED Line SCADA Install/Replace | RAMP Risk: WF Control / DOCP Control | C7 - Protective Equipment / C9 - Supervisory Control and Data Acquisition | 4-10 | $ 5,664.9 | $ (250.7) | $ (5,915.7) | -104.4% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 35 | 09 | Electric Distribution Automation & | 09B | ED Sub SCADA/RTU Replace | SRM Total | SRM Total | 4-10 | $ 22,893.3 | $ 15,823.4 | $ (7,069.9) | -30.9% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 36 | 09 | Electric Distribution Automation & | 09B | ED Sub SCADA/RTU Replace | RAMP Risk: DOCP Control | C9 - Supervisory Control and Data Acquisition | 4-10 | $ 22,893.3 | $ 15,823.4 | $ (7,069.9) | -30.9% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 37 | 09 | Electric Distribution Automation & | 09D | ED Sub SCADA/RTU Install | SRM Total | SRM Total | 4-10 | $ 2,352.7 | $ 4,846.7 | $ 2,493.9 | 106.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 38 | 09 | Electric Distribution Automation & | 09D | ED Sub SCADA/RTU Install | RAMP Risk: DOCP Control | C9 - Supervisory Control and Data Acquisition | 4-10 | $ 2,352.7 | $ 4,846.7 | $ 2,493.9 | 106.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 39 | 09 | Electric Distribution Automation & | 09E | ED Sub Protect Relay Install/Replace | SRM Total | SRM Total | 4-10 | $ 3,453.6 | $ 1,448.8 | $ (2,004.8) | -58.1% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 40 | 09 | Electric Distribution Automation & | 09E | ED Sub Protect Relay Install/Replace | RAMP Risk: DOCP Control | C9 - Supervisory Control and Data Acquisition | 4-10 | $ 3,453.6 | $ 1,448.8 | $ (2,004.8) | -58.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 41 | 09 | Electric Distribution Automation & Protection | 09F | ED Sub SCADA Emergency Replace | SRM Total | SRM Total | 4-10 | $ 1,192.6 | $ 11,230.6 | $ 10,038.0 | 841.7% | N/A | N/A | N/A | N/A | NO | YES | N/A | Program expenditures exceeded imputed regulatory values due to an increase in the volume of automation equipment and protective relays failing in-service under emergency conditions driving higher overall costs. | N/A |
| 42 | 09 | Electric Distribution Automation & Protection | 09F | ED Sub SCADA Emergency Replace | RAMP Risk: DOCP Control | C9 - Supervisory Control and Data Acquisition | 4-10 | $ 1,192.6 | $ 11,230.6 | $ 10,038.0 | 841.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 43 | 17 | Electric Distribution Routine Emergency | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-4 | $ 188,416.2 | $ 274,632.6 | $ 86,216.4 | 45.8% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to higher than forecast volume of emergency events, driving higher overall contract spend, higher estimating over head costs, and higher labor charges. | N/A |
| 44 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | SRM Total | SRM Total | 4-3, 4-18 | $ (30,126.1) | $ 29,034.0 | $ 59,160.1 | -196.4% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to the inclusion of capital efficiencies in MWC 21 in the 2020 GRC that did not materialize in MWC 21. Any efficiencies achieved would be captured in the MWCs impacted by the process change. The recorded costs in MWC 21 represent the costs for miscellaneous support capital, Emergency Preparedness & Response work, Federal Land Authorization, specific wildfire mitigations, and costs for new wildfire mitigations identified since the 2020 GRC was filed, incldng the Distribution, Transmission, and Substation Fire Action Schema and Technology (DTS FAST) pilot. | N/A |
| 45 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | SRM (Non-RAMP) | Miscellaneous Capital | 4-18 | $ (38,347.1) | $ 10,816.6 | $ 49,163.7 | -128.2% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 46 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | SRM (Non-RAMP) | EP&R Capital | 4-3 | $ 1,213.3 | $ 898.4 | $ (315.0) | -26.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 47 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | RAMP Risk: WF Mitigation | M13 - Public Safety Power Shutoff | 4-3 | $ - | $ 1,361.8 | $ 1,361.8 | 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 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | RAMP Risk: WF Mitigation | M18 - Wildfire Safety Operations Center | 4-3 | $ - | $ 140.6 | $ 140.6 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 49 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | RAMP Risk: WF Mitigation | M19 - Expanded Weather Station Deployment | 4-3 | $ 6,438.0 | $ 7,719.8 | $ 1,281.8 | 19.9% | 300 | 308 | 8 | 2.7% | N/A | N/A | N/A | N/A | N/A |
| 50 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | RAMP Risk: WF Mitigation | M20 - SOPP Model Automation | 4-3 | $ - | $ 975.1 | $ 975.1 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 51 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | RAMP Risk: WF Mitigation | M21 - Advanced Fire Modeling | 4-3 | $ - | $ 14.0 | $ 14.0 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 52 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | RAMP Risk: WF Mitigation | M24 - Enhanced Wire Down Detection | 4-3 | $ - | $ 607.7 | $ 607.7 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 53 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | RAMP Risk: WF Mitigation | M25 - Wildfire and Infrastructure Protection Teams | 4-3 | $ - | $ 58.5 | $ 58.5 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 54 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | RAMP Risk: WF Mitigation | M28 - CWSP Program Management Office | 4-3 | $ 569.5 | $ 0.3 | $ (569.2) | -99.9% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 55 | 21 | Miscellaneous Capital and EP&R | N/A | Not assigned | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ - | $ 6,441.2 | $ 6,441.2 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 56 | 23 | Implement Real Estate Strategy | 23C | Implement Workplace Strategy | SRM Total | SRM Total | N/A | $ - | $ 266.5 | $ 266.5 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 57 | 23 | Implement Real Estate Strategy | 23C | Implement Workplace Strategy | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ - | $ 266.5 | $ 266.5 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 58 | 25 | Install New Electric Meters | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 6-6 | $ - | $ 28,508.2 | $ 28,508.2 | 100.0% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to transfer of this program from Customer Care to Electric Distribution in 2018 after the 2020 GRC financials submission. | N/A |
| 59 | 2A | Electric Distribution Preventive Maintenance OH | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ - | $ (214.1) | $ (214.1) | -100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 60 | 2A | Electric Distribution Preventive Maintenance OH | 2AA | OH General Replace | SRM Total | SRM Total | 4-6 | $ 60,078.4 | $ 261,997.7 | $ 201,919.3 | 336.1% | 12,135 | 20,340 | 8,205 | 67.6% | YES | YES | YES | Program expenditures exceeded imputed regulatory values due to higher volume of work completed and greater use of contractors as work volume exceeded capacity of internal resources. | Actual units were higher than imputed regulatory units due to change in strategy in Q2 last year to focus on wildfire risk. More high fire risk tags completed. |
| 61 | 2A | Electric Distribution Preventive Maintenance OH | 2AA | OH General Replace | RAMP Risk: WF Control / DOCP Control | C8 - OH Equipment Replacement/ C4 - Overhead Equip ED Prev Maint | 4-6 | $ 60,078.4 | $ 261,997.7 | $ 201,919.3 | 336.1% | 12,135 | 20,340 | 8,205 | 67.6% | N/A | N/A | N/A | N/A | N/A |
| 62 | 2A | Electric Distribution Preventive Maintenance OH | 2AB | Bird Safe Install/Replacement | SRM Total | SRM Total | 4-6 | $ 3,166.7 | $ 3,130.6 | $ (36.0) | -1.1% | 1,209 | 822 | (387) | -32.0% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory 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. |
| 63 | 2A | Electric Distribution Preventive Maintenance OH | 2AB | Bird Safe Install/Replacement | RAMP Risk: WF Control / DOCP Control | C6 - Animal Abatement/ C4 - Overhead Equip ED Prev Maint | 4-6 | $ 3,166.7 | $ 3,130.6 | $ (36.0) | -1.1% | 1,209 | 822 | (387) | -32.0% | N/A | N/A | N/A | N/A | N/A |
| 64 | 2A | Electric Distribution Preventive Maintenance OH | 2AC | Bird Safe Install/Replace Annual | SRM Total | SRM Total | 4-6 | $ 2,596.3 | $ 2,466.5 | $ (129.8) | -5.0% | 989 | 470 | (519) | -52.5% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory 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. |
| 65 | 2A | Electric Distribution Preventive Maintenance OH | 2AC | Bird Safe Install/Replace Annual | RAMP Risk: WF Control / DOCP Control | C6 - Animal Abatement/ C4 - Overhead Equip ED Prev Maint | 4-6 | $ 2,596.3 | $ 2,466.5 | $ (129.8) | -5.0% | 989 | 470 | (519) | -52.5% | N/A | N/A | N/A | N/A | N/A |

# TABLE 3-4
# ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 66 | 2A | Electric Distribution Preventive Maintenance OH | 2AE | OH COE Replace | SRM Total | SRM Total | 4-6 | $ 32,042.3 | $ 58,058.9 | $ 26,016.7 | 81.2% | 1,463 | 1,365 | (98) | -6.7% | YES | YES | NO | Program expenditures exceeded imputed regulatory values due to greater use of contractors as work volume exceeded capacity of internal resources. | Below variance threshold |
| 67 | 2A | Electric Distribution Preventive Maintenance OH | 2AE | OH COE Replace | RAMP Risk: WF Control | C8 - OH Equipment Replacement | 4-6 | $ 32,042.3 | $ 58,058.9 | $ 26,016.7 | 81.2% | 1,463 | 1,365 | (98) | -6.7% | N/A | N/A | N/A | N/A | N/A |
| 68 | 2A | Electric Distribution Preventive Maintenance OH | 2AF | OH Idle Facility Remove | SRM Total | SRM Total | 4-6 | $ 10,669.1 | $ 15,249.6 | $ 4,580.5 | 42.9% | 2,347 | 1,714 | (633) | -27.0% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to change in strategy in Q2 last year to focus on wildfire risk and complete high fire risk work in MAT 2AA. |
| 69 | 2A | Electric Distribution Preventive Maintenance OH | 2AF | OH Idle Facility Remove | RAMP Risk: WF Control / DOCP Control | C8 - OH Equipment Replacement/ C4 - Overhead Equip ED Prev Maint | 4-6 | $ 10,669.1 | $ 15,249.6 | $ 4,580.5 | 42.9% | 2,347 | 1,714 | (633) | -27.0% | N/A | N/A | N/A | N/A | N/A |
| 70 | 2A | Electric Distribution Preventive Maintenance OH | 2AG | SF Series Streetlights | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ - | $ 24.4 | $ 24.4 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 71 | 2A | Electric Distribution Preventive Maintenance OH | 2AH | LED Streetlights | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ - | $ 1,115.6 | $ 1,115.6 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 72 | 2A | Electric Distribution Preventive Maintenance OH | 2AI | SF Historical Streetlights | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ - | $ 74.4 | $ 74.4 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 73 | 2A | Electric Distribution Preventive Maintenance OH | 2AP | OH Capital Projects | SRM Total | SRM Total | 4-6 | $ 13,838.5 | $ 13,340.1 | $ (498.4) | -3.6% | 625 | 1,429 | 804 | 128.6% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to increase in scope of program in 2021. The scope of the program was expanded to expedite the replacement of non-exempt fuses (which are located in HFTD areas) to mitigation ignition risks. |
| 74 | 2A | Electric Distribution Preventive Maintenance OH | 2AP | OH Capital Projects - Non-exempt fuse replacement | RAMP Risk: WF Control | C4 - Non-Exempt Equipment Replacement | 4-6 | $ 535.2 | $ - | $ (535.2) | -100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 75 | 2A | Electric Distribution Preventive Maintenance OH | 2AP | OH Capital Projects - Non-exempt fuse replacement | RAMP Risk: WF Control / DOCP Control | C8 - Overhead Equipment Replacement / C4 - Overhead Equipment ED Preventive Maintenance | 4-6 | $ 7,878.2 | $ 2,044.9 | $ (5,833.2) | -74.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 76 | 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 | $ 11,295.2 | $ 5,870.0 | 108.2% | 625 | 1,429 | 804 | 128.6% | N/A | N/A | N/A | N/A | N/A |
| 77 | 2A | Electric Distribution Preventive Maintenance OH | 2AQ | Ceramic Post Insulators | SRM Total | SRM Total | 4-6 | $ - | $ 705.6 | $ 705.6 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 78 | 2A | Electric Distribution Preventive Maintenance OH | 2AQ | Ceramic Post Insulators | RAMP Risk: WF Control / DOCP Control | C8 - OH Equipment Replacement/ C4 - Overhead Equip ED Prev Maint | 4-6 | $ - | $ 705.6 | $ 705.6 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 79 | 2A | Electric Distribution Preventive Maintenance OH | 2AR | Surge Arrester Replacement | SRM Total | SRM Total | 4-6 | $ 75,432.6 | $ 74,190.9 | $ (1,241.6) | -1.6% | 19,340 | 15,465 | (3,875) | -20.0% | 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. |
| 80 | 2A | Electric Distribution Preventive Maintenance OH | 2AR | Surge Arrester Replacement | RAMP Risk: WF Mitigation | M5 - Non Exempt Surge Arrester Replacement Program | 4-6 | $ 75,432.6 | $ 74,190.9 | $ (1,241.6) | -1.6% | 19,340 | 15,465 | (3,875) | -20.0% | N/A | N/A | N/A | N/A | N/A |
| 81 | 2A | Electric Distribution Preventive Maintenance OH | 2AS | FAS Overhead Capital | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 756.7 | $ 101.4 | $ (655.3) | -86.6% | 2,325 | 1,106 | (1,219) | -52.4% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to change in strategy in Q2 last year to focus on wildfire risk and complete high fire risk work in MAT 2AA. |
| 82 | 2B | Electric Distribution Preventive Maintenance UG | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 3,092.8 | $ (110.3) | $ (3,203.1) | -103.6% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |

**TABLE 3-4**
**ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83 | 2B | Electric Distribution Preventive Maintenance UG | 2BA | UG General Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 46,434.6 | $ 72,974.8 | $ 26,540.2 | 57.2% | 2,551 | 2,892 | 341 | 13.4% | YES | YES | NO | Program expenditures exceeded imputed regulatory values due to greater use of contractors as work volume exceeded capacity of internal resources. | Below variance threshold |
| 84 | 2B | Electric Distribution Preventive Maintenance UG | 2BB | Fault Indicator Replacements | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 1,171.3 | $ 813.2 | $ (358.1) | -30.6% | 3,791 | 2,740 | (1,051) | -27.7% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to change in strategy in Q2 last year to focus on wildfire risk and complete high fire risk overhead maintenance work. |
| 85 | 2B | Electric Distribution Preventive Maintenance UG | 2BD | UG COE Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 5,915.1 | $ 9,441.0 | $ 3,525.9 | 59.6% | 145 | 95 | (50) | -34.5% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to change in strategy in Q2 last year to focus on wildfire risk and complete high fire risk overhead maintenance work. |
| 86 | 2B | Electric Distribution Preventive Maintenance UG | 2BF | UG Idle Facility Remove | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 194.2 | $ 95.2 | $ (99.0) | -51.0% | 17 | 3 | (14) | -82.4% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to change in strategy in Q2 last year to focus on wildfire risk and complete high fire risk overhead maintenance work. |
| 87 | 2B | Electric Distribution Preventive Maintenance UG | 2BP | UG Capital Projects | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 2,589.3 | $ 692.5 | $ (1,896.9) | -73.3% | 0 | 2 | 2 | 100.0% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to change in strategy in Q2 last year to focus on Wildfire Risk. More high fire risk tags completed. |
| 88 | 2C | Electric Distribution Preventive Maintenance Network | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ - | $ 25.6 | $ 25.6 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 89 | 2C | Electric Distribution Preventive Maintenance Network | 2CA | NP Relay Replacement | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 232.6 | $ 92.6 | $ (140.0) | -60.2% | 20 | 17 | (3) | -15.0% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 90 | 2C | Electric Distribution Preventive Maintenance Network | 2CB | Fiber/SCADA Communication Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 145.7 | $ 19.0 | $ (126.7) | -87.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 91 | 2C | Electric Distribution Preventive Maintenance Network | 2CC | Network Transformer & Protector Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 5,284.8 | $ 4,942.7 | $ (342.1) | -6.5% | 25 | 42 | 17 | 68.0% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to additional units identified for replacement based on condition. Additional units were identified via inspection, dissolved gas analysis (DGA), and in the course of normal work. |
| 92 | 2C | Electric Distribution Preventive Maintenance Network | 2CD | Venting Manhole Covers Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 5,569.9 | $ 5,057.1 | $ (512.9) | -9.2% | 593 | 513 | (80) | -13.5% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 93 | 2C | Electric Distribution Preventive Maintenance Network | 2CE | SCADA Communications Upgrd | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-6 | $ 8,786.1 | $ 11,683.9 | $ 2,897.8 | 33.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 94 | 2F | Build IT Applications & Infrastructure | N/A | Not assigned | SRM Total | SRM Total | 4-15 | $ 17,393.8 | $ 66,989.1 | $ 49,595.4 | 285.1% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to technology investments made in support of wildfire mitigation efforts (IT PSPS Program, IT Asset Risk Program, Data Enablement). | N/A |
| 95 | 2F | Build IT Applications & Infrastructure | N/A | Not assigned | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ 17,393.8 | $ 66,989.1 | $ 49,595.4 | 285.1% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 96 | 3R | Energy Storage Capital | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | N/A | $ - | $ 284.0 | $ 284.0 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 97 | 46 | Electric Distribution Substation Capacity | 46A | ED Substation General install/Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 32,525.3 | $ 9,603.0 | $ (22,922.3) | -70.5% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures were below imputed regulatory values due to a cancellation of the Llagas energy storage project. | N/A |
| 98 | 46 | Electric Distribution Substation Capacity | 46F | ED Substation Emergency and Operational Capacity | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 5,121.5 | $ 17,398.6 | $ 12,277.1 | 239.7% | N/A | N/A | N/A | N/A | NO | YES | N/A | Program expenditures exceeded imputed regulatory values due to completion in 2021 of capacity projects from previous years that were rescheduled due to emergency repair and wildfire hardening work. | N/A |

# TABLE 3-4
# ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 99 | 46 | Electric Distribution Substation Capacity | 46H | ED Substation New Bus Related Capacity | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 17,471.2 | $ 27,207.7 | $ 9,736.5 | 55.7% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 100 | 46 | Electric Distribution Substation Capacity | 46N | ED Substation Land Purchase New Sub | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 843.5 | $ 6.5 | $ (837.0) | -99.2% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 101 | 46 | Electric Distribution Substation Capacity | 46T | ED Substation Support Transmission or Substation Related work | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-13 | $ 2,355.4 | $ - | $ (2,355.4) | -100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 102 | 48 | Electric Distribution Substation Replace Other Equipment | 48A | Replace ED Substation Other Equipment | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 7,346.4 | $ 4,985.2 | $ (2,361.2) | -32.1% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 103 | 48 | Electric Distribution Substation Replace Other Equipment | 48C | Replace ED Substation Batteries | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 2,257.5 | $ 466.3 | $ (1,791.2) | -79.3% | 10 | 2 | (8) | -80.0% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to a decision to defer proactive battery replacements to fund other higher priority work in MWC 48, such as critical switchgear replacement work in the 2020 GRC period. Deferral of these proactive replacements does not compromise safety or reliability. |
| 104 | 48 | Electric Distribution Substation Replace Other Equipment | 48D | Replace ED Substation Breakers | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 7,481.5 | $ 6,564.6 | $ (917.0) | -12.3% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 105 | 48 | Electric Distribution Substation Replace Other Equipment | 48E | Replace ED Substation Switches | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 1,437.4 | $ 815.2 | $ (622.2) | -43.3% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 106 | 48 | Electric Distribution Substation Replace Other Equipment | 48F | Replace ED Substation Switchgear | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 21,156.4 | $ 31,757.2 | $ 10,600.8 | 50.1% | N/A | N/A | N/A | N/A | NO | YES | N/A | Program expenditures exceeded imputed regulatory values primarily because costs related to the Larkin switchgear replacement project that had been forecast for prior years instead fell in 2021. Carry over activities included deferred materials purchases. These purchases included supplier and PG&E issues related to COVID-19 execution impacts that resulted in higher expenditures. | N/A |
| 107 | 48 | Electric Distribution Substation Replace Other Equipment | 48H | Replace ED Substation Civil Structures | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 2,045.3 | $ 1,264.6 | $ (780.7) | -38.2% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 108 | 48 | Electric Distribution Substation Replace Other Equipment | 48L | Dist Line Work Support Substation | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 7,109.6 | $ 19,052.3 | $ 11,942.7 | 168.0% | N/A | N/A | N/A | N/A | NO | YES | N/A | Program expenditures exceeded imputed regulatory values due to a higher volume of distribution line work required to support various transformer, switchgear, and emergency replacement projects. In addition, carry over costs from prior years related to COVID-19 impacts resulted in higher expenses. | N/A |
| 109 | 48 | Electric Distribution Substation Replace Other Equipment | 48N | ED Substation Insulators | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 2,255.3 | $ 8.9 | $ (2,246.3) | -99.6% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 110 | 48 | Electric Distribution Substation Replace Other Equipment | 48X | ED Substation Animal Abatement | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 2,385.6 | $ 4,739.2 | $ 2,353.6 | 98.7% | 10 | 12 | 2 | 20.0% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 111 | 49 | Electric Distribution Reliability Circuit/Zone | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-9 | $ 4,430.9 | $ 14,961.1 | $ 10,530.1 | 237.7% | N/A | N/A | N/A | N/A | NO | YES | N/A | Program expenditures exceeded imputed regulatory values due to higher volume of line recloser and automatic switch purchases. | N/A |
| 112 | 49 | Electric Distribution Reliability Circuit/Zone | 49A/09A (a) | Distribution Line Automation | SRM Total | SRM Total | 4-9 | $ - | $ 8,220.3 | $ 8,220.3 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 113 | 49 | Electric Distribution Reliability Circuit/Zone | 49A/09A (a) | Distribution Line Automation | RAMP Risk: WF Mitigation / DOCP Control | M15 - Automation and Protection / C9 - Supervisory Control and Data Acquisition | 4-9 | $ - | $ 8,220.3 | $ 8,220.3 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 114 | 49 | Electric Distribution Reliability Circuit/Zone | 49B | Recl Ctrls Install/Replace | SRM Total | SRM Total | 4-9 | $ - | $ 23.9 | $ 23.9 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 115 | 49 | Electric Distribution Reliability Circuit/Zone | 49B | Recl Ctrls Install/Replace | RAMP Risk: WF Control | C7 - Protective Equipment | 4-9 | $ - | $ 23.9 | $ 23.9 | 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 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 | 49 | Electric Distribution Reliability Circuit/Zone | 49C | OH Fuses Install/Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-9 | $ 1,094.6 | $ 686.6 | $ (408.0) | -37.3% | 99 | 97 | (2) | -2.0% | NO | NO | NO | Below variance threshold | Below variance threshold |
| 117 | 49 | Electric Distribution Reliability Circuit/Zone | 49D | OH Recl/Sect/Swch Install/Replace | SRM Total | SRM Total | 4-9 | $ - | $ 537.9 | $ 537.9 | 100.0% | 0 | 4 | 4 | 100.0% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to no forecast in the 2020 GRC for this work. |
| 118 | 49 | Electric Distribution Reliability Circuit/Zone | 49D | OH Recl/Sect/Swch Install/Replace | RAMP Risk: WF Control | C7 - Protective Equipment | 4-9 | $ - | $ 537.9 | $ 537.9 | 100.0% | 0 | 4 | 4 | 100.0% | N/A | N/A | N/A | N/A | N/A |
| 119 | 49 | Electric Distribution Reliability Circuit/Zone | 49E | General Install/Replace Circuit/Zone | SRM Total | SRM Total | 4-9 | $ - | $ 200.8 | $ 200.8 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 120 | 49 | Electric Distribution Reliability Circuit/Zone | 49E | General Install/Replace Circuit/Zone | RAMP Risk: WF Control / DOCP Control | C7 - Protective Equipment / C8 - Targeted Circuits Program | 4-9 | $ - | $ 200.8 | $ 200.8 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 121 | 49 | Electric Distribution Reliability Circuit/Zone | 49F | UG Fuses Install/Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-9 | $ - | $ 151.8 | $ 151.8 | 100.0% | 0 | 1 | 1 | 100.0% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to no forecast in the 2020 GRC for this work. |
| 122 | 49 | Electric Distribution Reliability Circuit/Zone | 49G | UG Recl/Sect/Swch Install/Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-9 | $ - | $ 293.2 | $ 293.2 | 100.0% | 0 | 4 | 4 | 100.0% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to no forecast in the 2020 GRC for this work. |
| 123 | 49 | Electric Distribution Reliability Circuit/Zone | 49H | PSPS Sect Device Install/Replace | SRM Total | SRM Total | 4-9 | $ 5,425.0 | $ 29,276.5 | $ 23,851.5 | 439.7% | 75 | 269 | 194 | 258.7% | YES | YES | YES | Program expenditures exceeded imputed regulatory values 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. | Actual units were higher than imputed regulatory units 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. |
| 124 | 49 | Electric Distribution Reliability Circuit/Zone | 49H | PSPS Sect Device Install/Replace | RAMP Risk: WF Mitigation | M15 - Automation and Protection | 4-9 | $ 5,425.0 | $ 29,276.5 | $ 23,851.5 | 439.7% | 75 | 269 | 194 | 258.7% | N/A | N/A | N/A | N/A | N/A |
| 125 | 49 | Electric Distribution Reliability Circuit/Zone | 49I | OH Fault Indicator/Line Sensor Install/Replace | SRM Total | SRM Total | 4-9 | $ - | $ 8,597.0 | $ 8,597.0 | 100.0% | 0 | 397 | 397 | 100.0% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to being added as part of CWSP/WMP program. |
| 126 | 49 | Electric Distribution Reliability Circuit/Zone | 49I | OH Fault Indicator/Line Sensor Install/Replace | RAMP Risk: DOCP Control | C8 - Targeted Circuits Program | 4-9 | $ - | $ 53.4 | $ 53.4 | 100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 127 | 49 | Electric Distribution Reliability Circuit/Zone | 49I | OH Fault Indicator/Line Sensor Install/Replace | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | 4-9 | $ - | $ 8,543.6 | $ 8,543.6 | 100.0% | 0 | 397 | 397 | 100.0% | N/A | N/A | N/A | N/A | N/A |
| 128 | 49 | Electric Distribution Reliability Circuit/Zone | 49M | PIH / Microgrids: non-gen | SRM Total | SRM Total | 4-9 | $ 13,187.8 | $ 13,746.9 | $ 559.1 | 4.2% | 12 | 5 | (7) | -58.3% | NO | NO | YES | Below variance threshold | 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. |
| 129 | 49 | Electric Distribution Reliability Circuit/Zone | 49M | PIH / Microgrids: non-gen | RAMP Risk: WF Mitigation | M10 - Resiliance Zones | 4-9 | $ 13,187.8 | $ 13,746.9 | $ 559.1 | 4.2% | 12 | 5 | (7) | -58.3% | N/A | N/A | N/A | N/A | N/A |
| 130 | 49 | Electric Distribution Reliability Circuit/Zone | 49R | Grid Mod Tech | SRM Total | SRM Total | N/A | $ - | $ (2,022.4) | $ (2,022.4) | -100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 131 | 49 | Electric Distribution Reliability Circuit/Zone | 49R | Grid Mod Tech | RAMP Risk: WF Mitigation | Post 2020 GRC Mitigations | N/A | $ - | $ (2,022.4) | $ (2,022.4) | -100.0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 132 | 49 | Electric Distribution Reliability Circuit/Zone | 49S | Elect Reliability Inst FLISR | SRM Total | SRM Total | 4-9 | $ 2,182.9 | $ 4,093.7 | $ 1,910.8 | 87.5% | 8 | 11 | 3 | 37.5% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to the completion of 2020 projects, that ended up carrying over into 2021, due to higher competing priorities using same limited construction resources in 2020. |
| 133 | 49 | Electric Distribution Reliability Circuit/Zone | 49S | Elect Reliability Inst FLISR | RAMP Risk: WF Control | C7 - Protective Equipment | 4-9 | $ 2,182.9 | $ 4,093.7 | $ 1,910.8 | 87.5% | 8 | 11 | 3 | 37.5% | N/A | N/A | N/A | N/A | N/A |
| 134 | 49 | Electric Distribution Reliability Circuit/Zone | 49T | D-TripSaverII Cutout-MountedLR | SRM Total | SRM Total | 4-9 | $ 3,311.1 | $ 6,684.8 | $ 3,373.7 | 101.9% | 187 | 109 | (78) | -41.7% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to the change from TripSaver installation to the more complex FuseSaver installation reduced the amount of units installed. |
| 135 | 49 | Electric Distribution Reliability Circuit/Zone | 49T | D-TripSaverII Cutout-MountedLR | RAMP Risk: WF Mitigation | M15 - Automation and Protection | 4-9 | $ 2,214.6 | $ 6,461.0 | $ 4,246.4 | 191.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

# TABLE 3-4
# ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 136 | 49 | Electric Distribution Reliability Circuit/Zone | 49T | D-TripSaverII Cutout-MountedLR | SRM (Non-RAMP) | SRM (Non-RAMP) | 4-9 | $ 1,096.5 | $ 223.8 | $ (872.7) | -79.6% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 137 | 49 | Electric Distribution Reliability Circuit/Zone | 49X | Emerging Dist Rel Improvements | SRM Total | SRM Total | 4-9 | $ 5,787.0 | $ 2,677.5 | $ (3,109.5) | -53.7% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 138 | 49 | Electric Distribution Reliability Circuit/Zone | 49X | Emerging Dist Rel Improvements | RAMP Risk: WF Control / DOCP Control | C7 - Protective Equipment / C8 - Targeted Circuits Program | 4-9 | $ 5,787.0 | $ 2,677.5 | $ (3,109.5) | -53.7% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 139 | 54 | Electric Distribution Substation Transformer Replacements | 54A | ED Substation Replace Transformer | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 5,660.1 | $ 37,706.8 | $ 32,046.7 | 566.2% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to a decision to continue in-flight transformer replacements not identified in the 2020 GRC forecast. | N/A |
| 140 | 54 | Electric Distribution Substation Transformer Replacements | 54L | ED Substation Life Extension Transformer | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ - | $ 26.9 | $ 26.9 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 141 | 56 | Electric Distribution Underground (UG) Asset Replacements | # | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-11 | $ - | $ 204.7 | $ 204.7 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 142 | 56 | Electric Distribution Underground (UG) Asset Replacements | 56A | UG Cable Other Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-11 | $ 33,503.8 | $ 24,664.2 | $ (8,839.6) | -26.4% | 20 | 8 | (12) | -60.0% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to other higher priority work of LBOR switches and temperature alarm devices. |
| 143 | 56 | Electric Distribution Underground (UG) Asset Replacements | 56B | UG Cable Inject | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-11 | $ 3,312.4 | $ 12.4 | $ (3,300.0) | -99.6% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 144 | 56 | Electric Distribution Underground (UG) Asset Replacements | 56C | UG Cable COE Replace | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-11 | $ 33,407.4 | $ 26,990.9 | $ (6,416.5) | -19.2% | 221 | 108 | (113) | -51.1% | NO | NO | YES | Below variance threshold | Actual units were lower than imputed regulatory units due to other higher priority work of LBOR switches and temperature alarm devices. |
| 145 | 56 | Electric Distribution Underground (UG) Asset Replacements | 56D | TGRAM/TGRAL Switch Replacement | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-11 | $ - | $ (243.8) | $ (243.8) | -100.0% | 0 | 3 | 3 | 100.0% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to identification of newly discovered units requiring replacements. |
| 146 | 56 | Electric Distribution Underground (UG) Asset Replacements | 56N | Network Cable Replacement | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-11 | $ 24,502.9 | $ 28,134.1 | $ 3,631.2 | 14.8% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 147 | 56 | Electric Distribution Underground (UG) Asset Replacements | 56S | Replace Obsolete UG Switches | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-11 | $ 6,660.0 | $ 14,052.4 | $ 7,392.4 | 111.0% | 64 | 88 | 24 | 37.5% | NO | NO | YES | Below variance threshold | Actual units were higher than imputed regulatory units due to completion of additional LBOR switch replacements to meet the 2020 GRC settlement agreement compliance requirement. |
| 148 | 56 | Electric Distribution Underground (UG) Asset Replacements | 56T | Install Temperature Indicator | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-11 | $ - | $ 12,624.6 | $ 12,624.6 | 100.0% | 0 | 458 | 458 | 100.0% | NO | YES | YES | Program expenditures exceeded imputed regulatory values because this is a new program initiated after the 2020 GRC was filed to install temperature sensors to monitor underground equipment. | Actual units were higher than imputed regulatory units because this is a new program initiated after the 2020 GRC was filed to install temperature sensors to monitor underground equipment. |
| 149 | 58 | Electric Distribution Substation Safety and Security | 58A | ED Substation Safety&Envir&Fire Protect | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 2,285.3 | $ 108.0 | $ (2,177.3) | -95.3% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 150 | 58 | Electric Distribution Substation Safety and Security | 58B | Replace Dist Sub Civil Structures | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ - | $ 205.2 | $ 205.2 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 151 | 58 | Electric Distribution Substation Safety and Security | 58C | Replace Dist Sub Misc Equip | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ - | $ 5.9 | $ 5.9 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 152 | 58 | Electric Distribution Substation Safety and Security | 58S | ED Substation Security Upgrades | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 2,447.8 | $ 2,802.7 | $ 354.9 | 14.5% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |

**TABLE 3-4**
**ELECTRIC DISTRIBUTION 2021 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 Control/Mitigation Name | 2020 GRC Testimony Reference | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 Cost Percent Change (%) (B-A)/A | 2021 Imputed Adopted Units (C) | 2021 Actual Units (D) | 2021 Unit Difference (D-C) | 2021 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 153 | 59 | Electric Distribution Substation Emergency Replacement | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-12 | $ 64,283.6 | $ 109,649.7 | $ 45,366.1 | 70.6% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to a higher volume of Just-In-Time (JIT) transformer and minor equipment, as well as various other equipment replacements identified through wildfire inspections. The 2020 GRC forecast planned for only emergency support, whereas the actual expenses were higher for the additional JIT work identified. Overall there were also more in-flight project costs that were multi-year efforts | N/A |
| 154 | 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 | $ 32,251.7 | $ 67,387.7 | $ 35,136.0 | 108.9% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to higher than anticipated contract and internal labor costs for ADMS SCADA replacement, including work associated with Network Model Build, Application Build, and Application Testing. Additionally, IT infrastructure costs were higher than initially forecasted. | N/A |
| 155 | 63 | Electric Operations Control Center Facility and Operations Technology | 63D | Distribution Operational Tech | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-5 | $ - | $ 1,626.6 | $ 1,626.6 | 100.0% | N/A | N/A | N/A | N/A | NO | NO | N/A | Below variance threshold | N/A |
| 156 | 74 | Install New Gas Meters | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 6-6 | $ - | $ 39,771.7 | $ 39,771.7 | 100.0% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to transfer of this program from Customer Care to Electric Distribution in 2018 after the 2020 GRC forecast submission. | N/A |
| 157 | 95 | Electric Distribution Major Emergency | N/A | Not assigned | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | 4-4 | $ 56,556.5 | $ 159,627.3 | $ 103,070.8 | 182.2% | N/A | N/A | N/A | N/A | YES | YES | N/A | Program expenditures exceeded imputed regulatory values due to large weather events that took place in 2021. This program utilizes a 5 year average to forecast, however in 2021 the events that took place were larger than anything seen in the past 5 years. Hence the variance reflects the impacts of these weather events. | N/A |

(a) Amounts forecast and authorized in MAT 09A in the 2020 GRC are now recorded in MAT 49A.

## D. MWC Descriptions – Expense

**MWC AB – Support and Emergency Preparedness and Response (EP&R)** – 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 EP&R organization, recorded in MAT code AB6. 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. This also includes the Public Safety Power Shutoffs (PSPS) event cost and PSPS program recorded in MAT AB6. This will also include wildfire situational awareness related programs including the Wildfire Safety Operations Center (WSOC)/(will be) All-Hazards Center, Safety and Infrastructure Protection Team (SIPT), Meteorology-related projects (including Advanced Fire Modeling), and wildfire cameras. These activities are for the purpose of responding to emergencies in safe manner and timely restoring customer service to minimize reliability impacts. In addition, this MWC includes Public Awareness Outreach, the Advanced Technology Services (ATS) organization responsible for equipment testing and calibration and coordinating the EMF Program, and the Regulatory Compliance & Quality Assurance (QA) organization.

**MWC AR – Read and 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 (DO) 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 BC – Perform Reimbursable Work for Others** – Includes costs and the reimbursable expenses incurred to provide mutual assistance support to other utilities. This program relates to safety, reliability, or maintenance because it concerns timely restoring power following outages.

**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, e.g., arcing wire, wire down, patrol on lines before re-energizing due to fast tripping settings on devices to mitigate fire risk. This also includes costs associated with Enhanced Powerline Safety Settings (EPSS) to mitigate wildfire ignition risk. 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 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 (CPUC or 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.

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 UG Asset Management programs. This program also supports performing diagnostics on data from automated field equipment to support the DCCs; 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 to prevent premature failure.

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

- Preventive maintenance includes: Substation facility and Equipment Inspections (EI); 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.
- 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, licenses, tools, Integrated Grid Platform (IGP) applications, including the

implementation of an Advanced Distribution Management System (ADMS). This program relates to reliability and safety due to its critical association with advanced outage management applications including instantaneous fault location, automated switching recommendations, enhanced cybersecurity and supports 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 powerlines 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 – Fire Risk Mitigation Memorandum Account (FRMMA), Wildfire Mitigation Plan Memorandum Account (WMPMA), VMBA, and Rule 20A Balancing Account Expense:**

- FRMMA – Includes costs incurred for wildfire risk mitigation work that is not otherwise recovered in PG&E's adopted revenue requirements. PG&E will determine the incrementality of these amounts to the Company's revenue requirement when it applies for cost recovery;
- WMPMA – Includes costs incurred to implement PG&E's approved Wildfire Mitigation Plan that are not otherwise recovered in PG&E's adopted revenue requirement. 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). In addition, records costs for Tree Mortality and Fire Risk Reduction work, previously recorded in CEMA, in the new VMBA; and
- Rule 20A Balancing Account Expense – Includes costs associated with the Rule 20A Audit and Rule 20 Guidebook ordered by D.1803022, and expense amounts for cancelled projects.

This program relates to safety, reliability, or maintenance because the memorandum accounts, excluding Rule 20A, track work to implement safety prevention measures, system reliability risk reductions, and mandated maintenance improvements to address wildfire risk.

This also includes PSPS event activities and costs, and PSPS non-event preparation and programs, and costs associated with EPSS to mitigate wildfire ignition 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 PG&E's customers.

**MWC JV** – **Maintain Information Technology (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** – 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 operational management staff necessary to direct field execution of work on PG&E assets.

**MWC OS** – **Operational Support** – 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 operational support 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 and Equipment** – Includes the costs of miscellaneous tools and equipment, ATS 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 General Rate Case (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 their in-service life, prior to premature failure.

**MWC 08** – **Electric Distribution Reliability Base** – **OH Asset Replacement** – Includes rebuilding and reframing OH electric distribution lines (including the installation of covered wire and non-wood electric distribution poles, and conversion of overhead to underground); 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 high fire threat districts (HFTD) as part of PG&E's Community Wildfire Safety Program (CWSP).

**MWC 09** – **Electric Distribution Automation 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) trouble man 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 include miscellaneous capital expenses such as ATS lab safety and reliability upgrades.

**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 work moved to Corporate Real Estate in 2016, however some residual costs were in Electric Distribution for 2021.

**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 (EDPM), 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** – **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 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.

**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(TGRAM)/Transfer Ground Rocker Arm Line (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 Operational Technology** – Covers ongoing capital improvements and enhancements to the operational technology used in the DCCs, technology and systems for these facilities, including IGP applications such as ADMS. This includes operational technology costs to design, develop and enhance legacy and future applications, system and infrastructure technology solutions. This program relates to reliability and safety due to its critical association with advanced outage management applications including instantaneous fault location, automated switching recommendations,

enhanced cybersecurity and supports operator awareness of RT circuit conditions.

**MWC 74** – **Install New Gas Meters** – Includes labor necessary to perform SmartMeter AMI 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. MAT Code Descriptions – Expense**

**MAT AB6** – **EP&R** – EP&R expense cost. This program relates to safety, reliability, or maintenance because this work drives the company emergency response plan for customer safety, and timely outage restoration. This also includes the PSPS PMO organization. This will also include WF situational awareness related programs including the WSOC, SIPT, Meteorology-related projects (including AFM), and wildfire cameras.

**MAT BAF** – **General Operations** – DO 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** – **Power Quality and Distribution Operations Engineers Support** – Respond to customer voltage complaints, assess and identify potential overloading and providing guidance to Distribution System Operators regarding load transfers and circuit reconfigurations. 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** – **CPUC QA Electric Distribution Maintenance Audits** – 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 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 also includes costs associated with EPSS to mitigate wildfire ignition risk. 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 includes costs associated with EPSS to mitigate wildfire ignition risk. 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 GO 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 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. Units Measured: Number of poles. This program relates to safety, reliability, or maintenance because it actively works to determine that poles are in good condition 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. Units Measured: Number of poles. This program relates to safety, reliability, or maintenance because it actively works to determine that poles are in good condition 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 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. Units Measured: Number of poles. This program relates to safety, reliability, or maintenance because it actively works to determine that poles are in good condition 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 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 also includes costs associated with EPSS to mitigate wildfire ignition risk. 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 EI, 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 Gas Emergency Preparedness (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 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 HGC** – **ADMS Development** – Funds the ADMS. Used to track expense associated to the multi-year grid modernization effort to consolidate distribution operational technology platforms into a single platform. This program relates to safety, wildfire mitigation, 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, installation and replacement. Used to track expense improvements and enhancements at the DCCs. This program relates to safety, wildfire mitigation, reliability and 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. Units measured: Number of trees. 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 QA and quality control, targeted species work, and fuel reduction. Units measured: Miles completed. This program relates to safety, reliability, or maintenance because it addresses wildfire risk.

**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 and reliability 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 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 street light 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 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 and 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 (GAAP) 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 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 and 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. 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.

**G. New MAT Code Descriptions – Expense**

None.

**H. 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 to support safe and reliable operation of customer equipment.

**MAT 07C** – **Special Criteria Pole Replacement** – Replace all tree connections in the system. Tree connections are defined as a dead, dying or living tree that is being used as a utility power pole. Units measured: Number of trees. This program relates to safety, reliability, or maintenance because it actively works to identify trees being used as utility power poles. In addition, this program enhances overall system safety by replacing the trees with poles, 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 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 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 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 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 08D** – **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 08F** – **Do Not Use** – **Cornerstone DA Control Upgrade** – 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-HFTDs deemed deteriorated through processes: (1) post wire-down investigation, (2) outage review/safety team recommendation, or (3) to proactively address elevated rates of wires down to improve safety, reliability, and integrity. 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, or other object. Units measured: Number of feet replaced, which is converted to 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 HFTDs site specific primary conductor replacement, secondary conductor replacement, conversion of overhead to underground, 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 RTUs to improve visibility, reliability, and operations, and continuing to upgrade and replace obsolete, deficient, and failed automation and protection equipment. 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 DO 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 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# – EP&R Capital –**

Capital work and projects supporting 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 LED 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 $10,000 per location. This program relates to safety and maintenance because it includes replacement of non-exempt fuses with exempt fuses for wildfire mitigation in HFTD areas.

**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 and 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 location 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 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 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, etc.).

**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 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 49A – Distribution Line Automation** – Replace Automation/SCADA equipment includes Reclosers, OH, Pad-mounted, or Subsurface Switches, may

include deficient communication equipment. This program relates to safety, wildfire mitigation, 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 49B** – **Recloser Asset Replacement** – Strategic upgrade of reclosers (units in-service, not deteriorated or damaged), may include recloser replacement, minor communication, or other minor upgrades to expand or improve SCADA coverage and improve reliability. Units measured: Number of reclosers. This program relates to safety, reliability, or maintenance because it provides replacement electronic recloser controls or recloser 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** – **Recloser/Switch/Disconnect Install/Replace** – Install new Reclosers, 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 distribution PSPS sectionalizing devices. 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 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, wildfire mitigation, reliability, or maintenance because

it supports reducing risk and improving overall safety. Initial projects will install Rapid Earth Fault Current Limiter (REFCL) on circuits within the Tier 2 and 3 HFTD areas to reduce the risk of ignition from a wire down conditions.

**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** – **Single Phase Line Recloser** – Install single unit (per phase) recloser. Units measured: Number of locations. This program relates to safety, reliability, or maintenance because it directly funds the installation of electrical OH equipment designed to isolate faulted lines, limit the scope of electrical outages, improve electric service reliability, and gang tripping or remote functionality to increase public safety.

**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 to improve substation reliability and prevent transformer failures.

**MAT 56A** – **Reliability Related Cable Replacement** – 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 and reliability. Program 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** – **Cable Rejuvenation and Testing** – Rejuvenation (injection) of primary UG cables to restore insulation integrity with goal of extending operating life. Testing involves applying voltage signals to cable to evaluate its operating condition, typically using partial discharge. Units measured: Number of miles. Both rejuvenation and testing involve performing neutral assessment of the cables. Sections not injectable or do not pass testing are targeted for cable replacement under MAT 56A. This program relates to safety and reliability because it evaluates the condition (concentric neutral and insulation deterioration) of some of HMWPE and XLPE UG cables, in areas that have experienced two or more failures within five years, which are then prioritized for replacement under MAT 56A.

**MAT 56C** – **COE Cable Replacement** –Replacement of failed primary UG loop cable sections noted on the COE list. Units measured: Number of projects. This program relates to 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 and reliability 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 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** – **LBOR Switch Replacements** – 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 and reliability because it focuses on the replacement of subsurface switches that have been in service for more than 45 years, and for which the quantity of the insulating oil is considered suspect.

**MAT 56T** – Temperature Alarm Devices– Install Distribution Temperature Monitor, otherwise known as Temperature Alarm Devices, for Subsurface Distribution Assets (Subsurface Transformers, LBOR Switches and 600 amp Switches). This program relates to safety and reliability 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.

**MAT 63C** – **ADMS Development** – Funds the ADMS. Used to track capital associated to the multi-year grid modernization effort to consolidate distribution

operational technology platforms into a single platform. This program relates to safety, wildfire mitigation, 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, Equipment/Hardware installations and replacement. Used to track capital improvements and enhancements at the DCC. This program relates to safety, wildfire mitigation, reliability, and maintenance by supporting the development and daily operation of RT applications/tools that are used to safely operate and maintain distribution reliability.

## I. New MAT Code Descriptions – Capital

**MAT 07A** – **Tree Connect VM Assessments** – Assess tree connections in the system. Tree conditions are defined as a dead, dying or living tree that is being used as a utility power pole. VM Certified Personnel are dispatched to the field to assess the tree condition and provide a recommended Priority for remediation. Remediation of tree connections includes installation of a new clearance pole and transfer of PG&E facilities from the tree to the new clearance pole. Remediation is performed in MAT 07C. MAT 07A is for the VM Certified Personnel assessment of the tree only. Units measured: Number of trees. This program relates to safety, reliability, or maintenance because it actively works to identify trees being used as utility power poles.

**MAT 54L** – **Transformer Life Extension** – Program is a cost-effective mitigation measure to extend the useful service life of the power transformer and maintain system reliability, with limited impact to planned major replacement projects. This program relates to safety, reliability, and maintenance because it reconditions power transformers, restoring integrity, until planned replacement can take place.

**MAT 23C – Implement Workforce Strategy –** includes the costs to implement workforce strategy. This program relates to safety, reliability and maintenance because it enables workforce strategy items such as the Wildfire Risk Command Center.

## J. Electric Distribution Supplemental Reporting

**TABLE 3-5**
**ELECTRIC DISTRIBUTION 2021 UNIT REPORT**

| Line No. | Description | 2021 Actual Units |
|---|---|---|
| 1 | Wood Poles replaced through Pole Replacement and other Company programs | 35,583 |
| 2 | Stand-alone circuit breakers replaced or installed across all Company programs | 44 |
| 3 | Miles of Paper Insulated Lead Sheath Cable (PILC) replaced across all Company programs | 6.87 |
| 4 | Miles of HMWPE cable, respectively, replaced across all Company programs | 28.94 |
| 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 | 419.76 |
| 7 | Grasshopper switches replaced across all Company programs | 7 |
| 8 | FLISR installations in the Reliability Program | 11 |
| 9 | OH fuse installations across all Company programs | 87 |

**TABLE 3-6**
**ELECTRIC DISTRIBUTION 2021 SURGE ARRESTER PROGRESS REPORT**
**(THOUSANDS OF NOMINAL DOLLARS)**

| Line No. | Description | Amount |
|---|---|---|
| 1 | Capital (MAT 2AR) Total Program Spend: | $74,191 |
| 2 | Units Completed | 15,465 |
| 3 | Locations in PG&E's survey identified as not requiring work: | 3,497 |

**TABLE 3-7**
**ELECTRIC DISTRIBUTION WOOD POLE COUNT BY AGE**

| Line No. | Wood Pole Count by Age<br>Age (Years) | Number of Poles |
|---|---|---|
| 1 | 1-5 | 129,582 |
| 2 | 6-10 | 114,844 |
| 3 | 11-15 | 82,953 |
| 4 | 16-20 | 83,495 |
| 5 | 21-25 | 124,011 |
| 6 | 26-30 | 111,533 |
| 7 | 31-35 | 155,233 |
| 8 | 36-40 | 161,860 |
| 9 | 41-45 | 168,858 |
| 10 | 46-50 | 188,748 |
| 11 | 51-55 | 150,364 |
| 12 | 56-60 | 168,501 |
| 13 | 61-65 | 193,623 |
| 14 | 66-70 | 169,170 |
| 15 | 71-75 | 121,818 |
| 16 | 76-80 | 47,778 |
| 17 | 81-85 | 11,175 |
| 18 | 86-90 | 5,177 |
| 19 | 91-95 | 4,025 |
| 20 | 96-100 | 890 |
| 21 | Unavailable | 83,452 |
| 22 | Total | 2,277,090 |

The Oil-Filled Transformers in High-Rise Replacement program, projected to be completed in 2021, was completed on February 10, 2022 under work performed in MAT 2CC. As required by the 2020 GRC Settlement, PG&E is notifying the Commission, in this Risk Spending Accountability Report, that the 2021 planned completion date was exceeded due to manufacturer production delays and product quality issues. See GRC Settlement, Section 2.3.6.3.

# 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 2021 imputed adopted spend vs. the actual spend and for those programs that are related to safety, reliability, or maintenance (SRM), the Major Work Category (MWC) descriptions, imputed adopted vs. actuals comparison details and variance explanations. In addition, per Decision 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 2021 EXPENSE COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) |
|---|---|---|---|---|---|
| 1 | Misc Expense | AB | 14,711.3 | (64.1) | (14,775.4) |
| 2 | Manage Environmental Oper | AK | 1,989.0 | 2,104.1 | 115.1 |
| 3 | Manage DCPP Business | BP | 14,425.0 | 14,820.5 | 395.5 |
| 4 | DCPP Support Services | BQ | 47,127.9 | 45,211.7 | (1,916.2) |
| 5 | Operate DCPP Plant | BR | 79,481.2 | 72,637.3 | (6,843.9) |
| 6 | Maintain DCPP Plant Assets | BS | 97,038.1 | 93,067.6 | (3,970.5) |
| 7 | Nuclear Generation Fees | BT | 15,458.7 | 16,012.8 | 554.2 |
| 8 | Procure DCPP Materials & Svcs | BU | | (645.5) | (645.5) |
| 9 | Maintain DCPP Plant Configurtn | BV | 35,802.7 | 33,388.7 | (2,414.1) |
| 10 | Provide Nuclear Support | EO | (12.0) | (11.4) | 0.6 |
| 11 | Manage Var Bal Acct Processes | IG | 5,830.7 | 2,285.2 | (3,545.5) |
| 12 | Maintain IT Apps & Infra | JV | 682.0 | 507.4 | (174.6) |
| 13 | Operational Management | OM | 8,533.8 | 8,575.0 | 41.2 |
| 14 | Operational Support | OS | 20,953.6 | 24,861.9 | 3,908.3 |
| **15** | **Total** | | **342,022.1** | **312,751.3** | **(29,270.8)** |

**TABLE 4-2**
**NUCLEAR GENERATION 2021 CAPITAL COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) |
|---|---|---|---|---|---|
| 1 | Office Furniture & Equipment | 03 | 31.2 | 0.0 | (31.2) |
| 2 | Tools & Equipment | 05 | 475.0 | 1,174.4 | 699.3 |
| 3 | DCPP Capital | 20 | 20,972.5 | 36,557.7 | 15,585.2 |
| 4 | Build IT Apps & Infra | 2F | 4,295.0 | 5,761.0 | 1,466.0 |
| 5 | Nuclear Safety and Security | 3I | 0.0 | (46.3) | (46.3) |
| **6** | **Total** | | **25,773.8** | **43,446.9** | **17,673.1** |

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

## TABLE 4-3
## NUCLEAR GENERATION 2021 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 | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) | 2021 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 | 14,711.3 | (64.1) | (14,775.4) | -100.4% | 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 | 47,127.9 | 45,211.7 | (1,916.2) | -4.1% | 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 | 14,425.0 | 14,820.5 | 395.5 | 2.7% | 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 | 79,481.2 | 72,637.3 | (6,843.9) | -8.6% | 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 | 97,038.1 | 93,067.6 | (3,970.5) | -4.1% | 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 | 35,802.7 | 33,388.7 | (2,414.1) | -6.7% | 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 | 5,830.7 | 2,285.2 | (3,545.5) | -60.8% | NO | NO | Below variance threshold. |

## TABLE 4-4
## NUCLEAR GENERATION 2021 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 | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) | 2021 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 | 20,972.5 | 36,557.7 | 15,585.2 | 74.3% | NO | YES | Program expenses were above imputed adopted costs due primarily to an emergent project to replace the Main Generator Stator Core Cooling Water Manifold Piping. |
| 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 | (46.3) | (46.3) | 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 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 2021 EXPENSE COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) |
|---|---|---|---|---|---|
| 1 | Misc Expense | AB | 6,521.5 | 5,135.3 | (1,386.1) |
| 2 | Manage Environmental Oper | AK | 3,732.7 | 3,334.0 | (398.8) |
| 3 | Maint Resv,Dams&Waterways | AX | 24,291.7 | 30,700.9 | 6,409.3 |
| 4 | Habitat and Species Protection | AY | 140.8 | 76.6 | (64.1) |
| 5 | Perf Reimburs Wk for Oth | BC | 26.5 | (82.6) | (109.0) |
| 6 | Manage Property & Bldgs | EP | 1,015.2 | 1,286.9 | 271.7 |
| 7 | Implement Environment Projects | ES | 54.1 | 0.0 | (54.1) |
| 8 | Manage Var Bal Acct Processes | IG | 5,397.4 | 22,127.1 | 16,729.7 |
| 9 | Maintain IT Apps & Infra | JV | 492.0 | 360.8 | (131.2) |
| 10 | Operate Hydro Generation | KG | 31,674.4 | 42,122.7 | 10,448.2 |
| 11 | Maint Hydro Generating Equip | KH | 21,976.0 | 19,520.9 | (2,455.0) |
| 12 | Maint Hydro Bldg,Grnd,Infrast | KI | 9,078.9 | 10,426.4 | 1,347.5 |
| 13 | License Compliance Hydro Gen | KJ | 37,483.6 | 22,972.1 | (14,511.5) |
| 14 | Operate Fossil Generation | KK | 13,175.7 | 15,440.6 | 2,264.9 |
| 15 | Maint Fossil Generating Equip | KL | 31,586.0 | 53,886.8 | 22,300.8 |
| 16 | Maint Fossil Bldg,Grnd,Infrast | KM | 2,995.4 | 2,302.7 | (692.7) |
| 17 | Operate Alternative Gen | KQ | 846.8 | 882.4 | 35.6 |
| 18 | Maint AltGen Generating Equip | KR | 3,397.6 | 807.3 | (2,590.3) |
| 19 | Maint AltGen Bldg,Grnd,Infrast | KS | 515.9 | 657.4 | 141.6 |
| 20 | Operational Management | OM | 3,675.1 | 3,414.1 | (261.0) |
| 21 | Operational Support | OS | 7,470.8 | 4,715.0 | (2,755.8) |
| 28 | **Total** | | **205,547.9** | **240,087.5** | **34,539.6** |

**TABLE 4-6**
**POWER GENERATION 2021 CAPITAL COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) |
|---|---|---|---|---|---|
| 1 | Office Furniture & Equipment | 3 | 15.7 | 0.0 | (15.7) |
| 2 | Tools & Equipment | 05 | 1,058.2 | 2,317.1 | 1,258.9 |
| 3 | Relicensing Hydro Gen | 11 | 211.6 | 523.9 | 312.3 |
| 4 | Implement Environment Projects | 12 | 1,510.6 | 24.1 | (1,486.5) |
| 5 | Build IT Apps & Infra | 2F | 6,432.1 | 1,906.7 | (4,525.4) |
| 6 | Instl/Rpl for Hydro Safety&Reg | 2L | 29,012.1 | 27,218.8 | (1,793.3) |
| 7 | Instal/Repl Hydro Gneratng Eqp | 2M | 106,675.8 | 114,433.6 | 7,757.8 |
| 8 | Instal/Repl Resv,Dams&Waterway | 2N | 59,695.4 | 27,576.2 | (32,119.1) |
| 9 | Instl/Repl Hydr BldgGrndInfrst | 2P | 3,918.7 | 19,556.7 | 15,638.0 |
| 10 | Instl/Rpl for Fosil Safety&Reg | 2R | 0.0 | 18.0 | 18.0 |
| 11 | Instal/Repl Fosil Gneratng Eqp | 2S | 5,081.1 | 13,689.7 | 8,608.6 |
| 12 | Instl/Repl Fosl BldgGrndInfrst | 2T | 0.0 | 845.0 | 845.0 |
| 13 | Instl/Rpl for AltGen Safty&Reg | 3A | 24.3 | 0.0 | (24.3) |
| 14 | Instal/Repl AltGen GneratngEqp | 3B | 688.1 | 27.8 | (660.3) |
| 15 | Hydroelec Lic & Lic Conditions | 3H | 32,109.9 | 16,695.9 | (15,414.0) |
| 16 | **Total** | | **246,433.5** | **224,833.6** | **(21,599.9)** |

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

# TABLE 4-7
# POWER GENERATION 2021 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 | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) | 2021 Cost Percent Change (%) (B-A)/A | Spending Variance Explanation Required (Y/N) | Spending Percentage 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 | 24,291.7 | 30,700.9 | 6,409.3 | 26.4% | NO | YES | Program expenses were above imputed adopted values due to two key drivers, including (1) rescheduling of the Lake Almanor Prattville Intake dredging project from 2019 to 2021 due to project reprioritization; and (2) forecast higher spend in 2021 than 2020 in MWC AX. Because PG&E did not provide forecasts for expense beyond 2020 in the GRC, yearly variances in MWC spend were not conveyed. Since expense imputed values in attrition years are based on test year forecasts, the MWC AX imputed value for 2021 was below PG&E's forecast. The higher program expenses were partially offset by the reclassification to MWC IG of recorded spend exceeding $4 million for the spillway assessment program (see variance explanation for MWC IG). |
| 2 | AX | Maint Resv,Dams&Waterways | Hydro System Safety | C1 - Dam Safety Program | Exhibit (PG&E-5), p. 2-6 | 276.2 | 1,055.1 | 778.9 | 282.0% | N/A | N/A | N/A |
| 3 | AX | Maint Resv,Dams&Waterways | Hydro System Safety | M1 - Internal Erosion Mitigation | Exhibit (PG&E-5), p. 2-17 | 0.0 | 88.0 | 88.0 | N/A | N/A | N/A | N/A |
| 4 | AX | Maint Resv,Dams&Waterways | Hydro System Safety | M2 - Spillway Remediation | Exhibit (PG&E-5), p. 2-17 | 0.0 | 357.3 | 357.3 | N/A | N/A | N/A | N/A |
| 5 | AX | Maint Resv,Dams&Waterways | Hydro System Safety | M4 - LLO Refurbishment | Exhibit (PG&E-5), p. 2-17 | 0.0 | 126.7 | 126.7 | N/A | N/A | N/A | N/A |
| 6 | BC | Perf Reimburs Wk for Oth | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | Exhibit (PG&E-5), p. 4-103 | 26.5 | (82.6) | (109.0) | -412.1% | NO | NO | Below variance threshold. |
| 7 | IG | Manage Var Bal Acct Processes | SRM Total | SRM Total | Exhibit (PG&E-5), p. 4-103 | 5,397.4 | 22,127.1 | 16,729.7 | 310.0% | YES | YES | Program expenses were above imputed adopted values due to the approval of the expansion of the two-way hydro licensing balancing account in the GRC 2020 decision (D.20-12-005), which now permits recovery through the hydro licensing balancing account of: (1) FERC and DSOD fees, and (2) programmatic spend for projects arising from the 2017 spillway assessment recommendations originating from the Oroville spillway incident. The costs of FERC fees and DSOD fees, cumulatively exceeding $11 million in 2021, have been moved from MWC KJ to MWC IG. The costs of the spillway assessment programmatic spend, cumulatively exceeding $4 million in 2021, have been moved from MWC AX to MWC IG. |
| 8 | IG | Manage Var Bal Acct Processes | Hydro System Safety | C1 - Dam Safety Program | Exhibit (PG&E-5), p. 2-6 | 0.0 | 59.5 | 59.5 | N/A | N/A | N/A | N/A |
| 9 | IG | Manage Var Bal Acct Processes | Hydro System Safety | M2 - Spillway Remediation | Exhibit (PG&E-5), p. 2-17 | 0.0 | 4,398.9 | 4,398.9 | N/A | N/A | N/A | N/A |
| 10 | KG | Operate Hydro Generation | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | Exhibit (PG&E-5), p. 4-103 | 31,674.4 | 42,122.7 | 10,448.2 | 33.0% | 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) emergent costs related to the fatality investigation of a PG&E employee on a company-owned road; (4) costs related to accelerating guidance document completion to meet Level 3 compliance deadline; (5) emergent physical security and cybersecurity costs at our FERC-regulated facilities to meet new regulations from FERC; and (6) emergent costs related to new CAISO telemetry requirements at PG&E-owned powerhouses. |
| 11 | KH | Maint Hydro Generating Equip | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | Exhibit (PG&E-5), p. 4-103 | 21,976.0 | 19,520.9 | (2,455.0) | -11.2% | NO | NO | Below variance threshold. |
| 12 | KI | Maint Hydro Bldg,Grnd,Infrast | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | Exhibit (PG&E-5), p. 4-103 | 9,078.9 | 10,426.4 | 1,347.5 | 14.8% | NO | NO | Below variance threshold. |
| 13 | KJ | License Compliance Hydro Gen | SRM Total (Non-RAMP) | SRM Total | Exhibit (PG&E-5), p. 4-103 | 37,483.6 | 22,972.1 | (14,511.5) | -38.7% | 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 $11 million in 2021, have been moved from MWC KJ to MWC IG. |
| 14 | KJ | License Compliance Hydro Gen | Hydro System Safety | C1 - Dam Safety Program | Exhibit (PG&E-5), p. 2-6 | 6,521.1 | 8,444.1 | 1,923.0 | 29.5% | N/A | N/A | N/A |
| 15 | KK | Operate Fossil Generation | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | Exhibit (PG&E-5), p. 5-63 | 13,175.7 | 15,440.6 | 2,264.9 | 17.2% | NO | NO | Below variance threshold. |
| 16 | KL | Maint Fossil Generating Equip | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | Exhibit (PG&E-5), p. 5-63 | 31,586.0 | 53,886.8 | 22,300.8 | 70.6% | YES | YES | Program expenses were above 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 occur in 2021 at Colusa Generating Station. |
| 17 | KM | Maint Fossil Bldg,Grnd,Infrast | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | Exhibit (PG&E-5), p. 5-63 | 2,995.4 | 2,302.7 | (692.7) | -23.1% | NO | NO | Below variance threshold. |
| 18 | KQ | Operate Alternative Gen | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | Exhibit (PG&E-5), p. 5-63 | 846.8 | 882.4 | 35.6 | 4.2% | NO | NO | Below variance threshold. |
| 19 | KR | Maint AltGen Generating Equip | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | Exhibit (PG&E-5), p. 5-63 | 3,397.6 | 807.3 | (2,590.3) | -76.2% | NO | NO | Below variance threshold. |
| 20 | KS | Maint AltGen Bldg,Grnd,Infrast | SRM Total (Non-RAMP) | SRM Total (Non-RAMP) | Exhibit (PG&E-5), p. 5-63 | 515.9 | 657.4 | 141.6 | 27.4% | NO | NO | Below variance threshold. |

# TABLE 4-8
# POWER GENERATION 2021 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 | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) | 2021 Cost Percent Change (%) (B-A)/A | Spending Variance Explanation Required (Y/N) | Spending Percentage 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 | 29,012.1 | 27,218.8 | (1,793.3) | -6.2% | 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 | 16,568.1 | 12,241.4 | (4,326.7) | -26.1% | 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 | 966.1 | 966.1 | N/A | 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 | 48.7 | 1,606.5 | 1,557.8 | 3196.8% | 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 | 1,949.2 | 1,670.1 | (279.1) | -14.3% | 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 | 106,675.8 | 114,433.6 | 7,757.8 | 7.3% | NO | NO | Below variance threshold. |
| 7 | 2N | Instal/Repl Resv,Dams&Waterway | SRM Total | SRM Total | Exhibit (PG&E-5), p. 4-104 | 59,695.4 | 27,576.2 | (32,119.1) | -53.8% | 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 2020 GRC decision (D.20-12-005) which now permits the programmatic spend for projects arising from the 2017 spillway assessment recommendations originating from the Oroville spillway incident to be recovered through the hydro licensing balancing account. The spillway assessment recommendation programmatic costs, exceeding $30 million in the 2021 forecast of the 2020 GRC, have been moved to MWC 3H. |
| 8 | 2N | Instal/Repl Resv,Dams&Waterway | Hydro System Safety | M1 - Internal Erosion Mitigation | Exhibit (PG&E-5), p. 2-16 | 682.2 | 500.2 | (182.1) | -26.7% | 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 | 0.0 | 0.0 | 0.0 | N/A | 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 | 1,727.9 | 1,727.9 | N/A | 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 | 3,918.7 | 19,556.7 | 15,638.0 | 399.1% | NO | YES | Program expenses were above imputed adopted values due to two key drivers. The first is emergent costs related to upgrading the Pit 3 powerhouse crane to support planned improvement projects. A third party assessment revealed deficiencies in the safe operability of the crane. The second driver is the Pit 5 powerhouse access road bridge installation, which was pulled forward a year from a forecast year of 2022 in the 2020 GRC forecast. The bridge installation work was necessary to prevent the tributary from overtopping the road and flooding Pit 5 Powerhouse during large storm events or high precipitation years, as has occurred several times in the past. |
| 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 | 18.0 | 18.0 | 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 | 5,081.1 | 13,689.7 | 8,608.6 | 169.4% | 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 | 0.0 | 845.0 | 845.0 | 100.0% | 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 | 24.3 | 0.0 | (24.3) | -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 | 688.1 | 27.8 | (660.3) | -96.0% | NO | NO | Below variance threshold. |
| 17 | 3H | Hydroelec Lic & Lic Conditions | SRM Total | SRM Total | Exhibit (PG&E-5), p. 4-104 | 32,109.9 | 16,695.9 | (15,414.0) | -48.0% | NO | YES | Program expenses were below imputed adopted due to two key drivers: (1) a delay in the regulatory process related to FERC operating license renewals for the McCloud-Pit license and the Rock Creek-Cresta license. Delays in license renewals create delays in the forecasted start date of the capital work required as part of the new operating license; and (2) PG&E's decision to surrender the Potter Valley license rather than continue through the relicensing process as the license was uneconomic to our customers. Forecast relicensing costs were not incurred.<br>The lower program expenses were partially offset by recorded spend of $3 million for the spillway assessment program (see variance explanation for MWC 2N). Due to the short timeline between the spillway assessment recommendations resulting from the 2017 Oroville spillway incident and the forecast due date for the 2020 GRC submittal, many of the projects envisioned for the spillway assessment work were at early stages of project identification, schedule and cost estimating. In the time since the 2020 GRC submittal, PG&E has refined its forecasts and effectively scheduled less work in 2021 and more in future years. |
| 18 | 3H | Hydroelec Lic & Lic Conditions | Hydro System Safety | M2 - Spillway Remediation | Exhibit (PG&E-5), p. 2-16 | 0.0 | 2,847.7 | 2,847.7 | N/A | 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 assigned to the Hydro Licensing Balancing Account (HLBA). This MWC includes: (1) costs to maintain Federal Energy Regulatory Commission (FERC) license compliance to support hydroelectric generation

activities for licenses received after January 1, 2014; (2) regulatory fees; (3) costs associated with implementation of the Crane Valley Recreation Settlement Agreement; and (4) 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. Please see Section 7, SRM Programs Balancing and Memorandum Account Cost Recovery.

**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 assigned to the HLBA. This MWC includes: (1) 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. Please see Section 7, SRM Programs Balancing and Memorandum Account Cost Recovery.

# PACIFIC GAS AND ELECTRIC COMPANY

# SECTION 5

# CUSTOMER CARE

# IMPUTED ADOPTED VS.

# RECORDED COMPARISON

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## A. Introduction

This section includes the following information for the Customer Care line of business: a comparison of the total 2021 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) 2020 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 5-1**
**CUSTOMER CARE 2021 EXPENSE COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) |
|---|---|---|---|---|---|
| 1 | Misc Expense | AB | 0.0 | (59.6) | (59.6) |
| 2 | Read & Investigate Meters | AR | 11,121.8 | (1,176.7) | (12,298.5) |
| 3 | Provide Field Service | DD | 707.8 | 0.0 | (707.8) |
| 4 | Manage Customer Inquiries | DK | 62,352.4 | 57,946.1 | (4,406.3) |
| 5 | Develop New Revenue | EL | 25,118.8 | 58,293.3 | 33,174.6 |
| 6 | Change/Maint Used Elec Meter | EY | 9,061.8 | 994.0 | (8,067.8) |
| 7 | Manage Var Cust Care Processes | EZ | 40,470.8 | 41,473.7 | 1,002.9 |
| 8 | Spc A&G/Oth Csts-Bud Dept | FA | 0.0 | 103.6 | 103.6 |
| 9 | Retain & Grow Customers | FK | 903.4 | 616.1 | (287.2) |
| 10 | Manage Energy Efficiency-NonBA | GM | 8,831.1 | 8,594.6 | (236.5) |
| 11 | Change/Maint Used Gas Meters | HY | 6,837.7 | 6,418.7 | (419.0) |
| 12 | Manage Var Bal Acct Processes | IG[1] | 0.0 | 50,802.1 | 50,802.1 |
| 13 | Bill Customers | IS | 56,613.6 | 52,290.4 | (4,323.1) |
| 14 | Manage Credit | IT | 15,653.4 | 8,169.1 | (7,484.3) |
| 15 | Collect Revenue | IU | 21,713.8 | 11,545.0 | (10,168.9) |
| 16 | Provide Account Services | IV | 17,671.0 | 15,839.6 | (1,831.4) |
| 17 | Maintain IT Apps & Infra | JV | 3,826.6 | 11,873.3 | 8,046.7 |
| 18 | Prov Advertising Svcs | LB | 0.0 | 3,574.9 | 3,574.9 |
| 19 | Prov Corporate Communication | LI | 0.0 | 935.5 | 935.5 |
| 20 | Prov Corp Affairs Svcs | LJ | 0.0 | 5,966.7 | 5,966.7 |
| 21 | Operational Management | OM | 4,262.1 | 3,289.3 | (972.8) |
| 22 | Operational Support | OS | 317.3 | 0.0 | (317.3) |
| 23 | **Total** | | **285,463.4** | **337,489.8** | **52,026.4** |

[1] Includes recorded costs by Marketing and Communications for PSPS and wildfire customer communications that were recorded to the WMPMA. Those recorded costs are now reflected in Customer Care since Marketing and Communications was reorganized from Corporate Services to Customer Care in 2021.

**TABLE 5-2**
**CUSTOMER CARE 2021 CAPITAL COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) |
|---|---|---|---|---|---|
| 1 | Tools & Equipment | 05 | 255.0 | 79.7 | (175.3) |
| 2 | Misc Capital | 21 | 500.0 | 5,348.1 | 4,848.1 |
| 3 | Install New Electric Meters | 25 | 54,010.8 | 27,878.6 | (26,132.2) |
| 4 | EV - Station Infrastructure | 28 | 3,523.2 | 2,311.8 | (1,211.4) |
| 5 | Build IT Apps & Infra | 2F | 7,852.2 | 43,103.4 | 35,251.2 |
| 6 | Install New Gas Meters | 74 | 76,717.9 | 101,533.2 | 24,815.3 |
| 7 | **Total** | | **142,859.0** | **180,254.7** | **37,395.7** |

## C. Comparison by MWC for Safety, Reliability, and Maintenance Work

# TABLE 5-3
# CUSTOMER CARE 2021 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 | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) | 2021 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 | 11,121.8 | (1,176.7) | (12,298.5) | -110.6% | YES | YES | 2021 actual costs were below 2021 imputed adopted costs due to the transfer of Field Meter Operations (FMO) to Electric Operations (EO) and Gas Operations (GO) in 2018.<br><br>FMO was included in Customer Care's 2020 GRC Exhibit since the decision to transfer FMO to EO and GO was made after PG&E finalized its 2020 GRC forecast. |
| 2 | DD | Provide Field Service | | | Exhibit (PG&E-6), Chapter 6 | 707.8 | 0.0 | (707.8) | -100.0% | NO | NO | Below threshold variance. |
| 3 | DK | Manage Customer Inquiries | | | Exhibit (PG&E-6), Chapter 4 | 62,352.4 | 57,946.1 | (4,406.3) | -7.1% | NO | NO | Below threshold variance. |
| 4 | EY | Change/Maint Used Elec Meter | | | Exhibit (PG&E-6), Chapter 6 | 9,061.8 | 994.0 | (8,067.8) | -89.0% | NO | YES | 2021 actual costs were below 2021 imputed adopted costs due to the transfer of Field Meter Operations (FMO) to Electric Operations (EO) and Gas Operations (GO) in 2018.<br><br>FMO was included in Customer Care's 2020 GRC Exhibit since the decision to transfer FMO to EO and GO was made after PG&E finalized its 2020 GRC forecast. |
| 5 | EZ | Manage Var Cust Care Processes | | | Exhibit (PG&E-6), All Chapters Except Chapter 10 | 40,470.8 | 41,473.7 | 1,002.9 | 2.5% | NO | NO | Below threshold variance. |
| 6 | GM | Manage Energy Efficiency-NonBA | | | Exhibit (PG&E-6), Chapter 3 | 8,831.1 | 8,594.6 | (236.5) | -2.7% | NO | NO | Below threshold variance. |
| 7 | HY | Change/Maint Used Gas Meters | | | Exhibit (PG&E-6), Chapter 6 | 6,837.7 | 6,418.7 | (419.0) | -6.1% | NO | NO | Below threshold variance. |
| 8 | IG | Manage Var Bal Acct Processes | | | Exhibit (PG&E-6) Chapter 2; Exhibit (PG&E-9) Chapter 8 - WMBA and WMPMA | 0.0 | 50,802.1 | 50,802.1 | 100.0% | YES | YES | 2021 actual costs were primarily attributable to Customer Care PSPS planning and readiness activities such as customer outreach and education, and customer resiliency and support programs. 2021 actual costs also include Marketing and Communications' costs for PSPS and wildfire customer communications reflected in Customer Care since Marketing and Communications was reorganized from Corporate Services to Customer Care in 2021. |
| 9 | IU | Collect Revenue | | | Exhibit (PG&E-6), Chapters 5, 6, and 7 | 21,713.8 | 11,545.0 | (10,168.9) | -46.8% | YES | YES | 2021 actual costs were below 2021 imputed adopted costs primarily due to the ongoing temporary closure, since March 2020, of all 65 Customer Service Offices for health and safety precautions in response to the COVID-19 pandemic. |

**TABLE 5-4**
**CUSTOMER CARE 2021 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 | 2021 Imputed Adopted Costs ($000) (A) | 2021 Actual Costs ($000) (B) | 2021 Cost Difference ($000) (B-A) | 2021 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 | 255.0 | 79.7 | (175.3) | -68.7% | NO | NO | Below threshold variance. |
| 2 | 21 | Misc Equipment | | | Exhibit (PG&E-6), Chapter 6 | 500.0 | 5,348.1 | 4,848.1 | 969.6% | NO | NO | Below threshold variance. |
| 3 | 25 | Install New Electric Meters | | | Exhibit (PG&E-6), Chapter 6 | 54,010.8 | 27,878.6 | (26,132.2) | -48.4% | YES | YES | 2021 actual costs were below 2021 imputed adopted costs due to the transfer of Field Meter Operations (FMO) to Electric Operations (EO) and Gas Operations (GO) in 2018.<br><br>FMO was included in Customer Care's 2020 GRC Exhibit since the decision to transfer FMO to EO and GO was made after PG&E finalized its 2020 GRC forecast. |
| 4 | 74 | Install New Gas Meters | | | Exhibit (PG&E-6), Chapter 6 | 76,717.9 | 101,533.2 | 24,815.3 | 32.3% | YES | YES | 2021 actual costs were above 2021 imputed adopted costs primarily due to materials costs related to the corrective maintenance of gas modules. |

**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 and 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" (BTL) activities related to public power and Community Choice Aggregation issues. BTL 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 and 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 EV 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

PACIFIC GAS AND ELECTRIC COMPANY
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SHARED SERVICES/INFORMATION TECHNOLOGY IMPUTED ADOPTED VS. RECORDED COMPARISON

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# PACIFIC GAS AND ELECTRIC COMPANY
# 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 2021 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) 2020 Spending Accountability Report. In addition, per Decision 19-04-020, the MWC descriptions explain how each program/project relates to safety, reliability, or maintenance.

## B. Comparison Summary Tables

**TABLE 6-1**
**SHARED SERVICES/IT 2021 EXPENSE COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) |
|---|---|---|---|---|---|
| 1 | Habitat and Species Protection | AY | 150.9 | 76.5 | (74.4) |
| 2 | Implement Environment Projects | ES | 712.0 | 810.8 | 98.8 |
| 3 | Implement RealEstate Strategy | JH | 8,378.8 | 5,127.1 | (3,251.7) |
| 4 | Maint Buildings | BI | 4,088.4 | 973.6 | (3,114.8) |
| 5 | Maintain IT Apps & Infra | JV | 37,743.9 | 32,242.0 | (5,501.9) |
| 6 | Manage DCPP Business | BP | 5,507.4 | 1,393.5 | (4,113.9) |
| 7 | Manage Environ Remed (Earning) | JK | 2,032.9 | 5,040.5 | 3,007.6 |
| 8 | Manage Environmental Oper | AK | 8,474.8 | 6,612.3 | (1,862.5) |
| 9 | Manage Land Services | JE | 3,545.7 | 3,342.6 | (203.1) |
| 10 | Manage Property & Bldgs | EP | 109,403.9 | 112,190.7 | 2,786.8 |
| 11 | Manage Var Bal Acct Processes | IG | 0.0 | 1,887.1 | 1,887.1 |
| 12 | Misc Expense | AB | 210,001.1 | 246,751.2 | 36,750.1 |
| 13 | Mnge Waste Disp & Transp | CR | 2,244.6 | 1,801.1 | (443.5) |
| 14 | Operational Management | OM | 1,722.1 | 737.1 | (985.0) |
| 15 | Operational Support | OS | 7,322.5 | 18,678.1 | 11,355.6 |
| 16 | Procure Materials & Services (b) | JL | 17,063.9 | 18,652.2 | 1,588.3 |
| 17 | Prov Human Resource Svcs | KX | 5,986.4 | 9,075.8 | 3,089.4 |
| 18 | Prov Regulation Svcs | KY | 1,512.6 | 350.6 | (1,162.0) |
| 19 | Prov Risk/Security Svcs | KZ | 15,421.4 | 26,302.5 | 10,881.1 |
| 20 | Safety Engineering & OSHA Cmpl | FL | 17,953.4 | 6,776.2 | (11,177.1) |
| 21 | **Shared Services Sub-Total** | | **459,266.6** | **498,821.4** | **39,554.9** |
| | | | | | |
| 22 | Fleet Capitalization | AB | (92,662.2) | (128,326.0) | (35,663.8) |
| 23 | Building Services Capitalization (a) | EP | (67,372.1) | (63,109.3) | 4,262.7 |
| 24 | **Shared Services Total** | | **299,232.3** | **307,386.1** | **8,153.8** |
| | | | | | |
| 25 | Maintain IT Apps & Infra | JV | 293,513.4 | 292,616.2 | (897.2) |
| 26 | Misc Expense | AB | 0.0 | 134.0 | 134.0 |
| 27 | Operational Management | OM | 536.5 | 456.0 | (80.4) |
| 28 | Operational Support | OS | 639.6 | 5,532.6 | 4,893.1 |
| 29 | **Information Technology Sub-Total** | | **294,689.4** | **298,738.9** | **4,049.5** |
| | | | | | |
| 30 | End User Services Capitalization | AB | (35,768.2) | (92,497.7) | (56,729.5) |
| 31 | **Information Technology Total** | | **258,921.2** | **206,241.2** | **(52,680.1)** |
| | | | | | |
| 32 | **Shared Services/Information Technology Total** | | **558,153.5** | **513,627.3** | **(44,526.3)** |

Notes:

(a) The 2020 GRC adopted amounts for PG&E's Building Services Capitalization credit was originally adopted in MWC AB. In this report, PG&E has aligned the imputed adopted amount with where the work is recorded (MWC EP).

(b) MWC JL includes recorded costs from the Sourcing department for wildfire contract support recorded in both the WMPMA/FRMMA and the WMBA.

**TABLE 6-2**
**SHARED SERVICES/IT 2021 CAPITAL COMPARISON SUMMARY**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC Description | MWC | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) |
|---|---|---|---|---|---|
| 1 | Build IT Apps & Infra | 2F | 25,151.2 | 38,309.4 | 13,158.3 |
| 2 | Fleet / Auto Equip (a) | 04 | 28,674.4 | 65,164.8 | 36,490.5 |
| 3 | Implement Environment Projects | 12 | 5,979.0 | 6,591.5 | 612.5 |
| 4 | Implement RealEstate Strategy | 23 | 92,473.3 | 283,222.6 | 190,749.3 |
| 5 | Maintain Buildings | 22 | 82,820.3 | 23,948.3 | (58,872.0) |
| 6 | Misc Capital | 21 | 579.1 | 821.5 | 242.3 |
| 7 | Security Install/Replace | 3N | 17,318.1 | 5,862.9 | (11,455.2) |
| 8 | Tools & Equipment | 05 | 1,823.9 | 2,432.7 | 608.8 |
| | | | | | |
| 9 | **Shared Services Total** | | **254,819.3** | **426,353.8** | **171,534.6** |
| | | | | | |
| 10 | Build IT Apps & Infra | 2F | 179,251.4 | 275,069.9 | 95,818.5 |
| 11 | **Information Technology Total** | | **179,251.4** | **275,069.9** | **95,818.5** |
| | | | | | |
| 12 | **Shared Services/Information Technology Total** | | **434,070.6** | **701,423.7** | **267,353.1** |

Notes:

(a) MWC 04 includes recorded costs from the Transportation Services department for wildfire Temporary Generation equipment for use during PSPS recorded in the WMBA.

## 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 | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 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 (NonRAMP) | Exhibit (PG&E-7), Chapter 5 | 4,088.4 | 973.6 | (3,114.8) | -76.2% | NO | NO | Below variance threshold. |
| 2 | JH | Implement RealEstate Strategy | SRM Total (Non-RAMP) | SRM Total (NonRAMP) | Exhibit (PG&E-7), Chapter 5 | 8,378.8 | 5,127.1 | (3,251.7) | -38.8% | 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 | 2021 Imputed Adopted Costs (A) | 2021 Actual Costs (B) | 2021 Cost Difference (B-A) | 2021 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 | 82,820.3 | 23,948.3 | (58,872.0) | -71.1% | 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 (NonRAMP) | Exhibit (PG&E-7), Chapter 5 | 92,473.3 | 283,222.6 | 190,749.3 | 206.3% | YES | YES | Increase was primarily due to efforts to prepare the new Oakland Headquarters building for ownership and occupancy starting in April 2022. These activities included Seismic Safety, Tenant Improvements, Furniture, and IT Infrastructure and Security upgrades. Other major expenditures in this MWC included purchasing the Fairfield Data Center building and property as a strategic investment to reduce Operating Expenses (lease costs); and project delivery costs for the Sacramento Area - T-Line Fab Shop which increased from the prior GRC forecast as a result of supply chain issues that caused an unplanned increase in material expenditures. |

## 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 relate to safety and reliability because it supports establishing contracts for Wildfire System Hardening, the Wildfire

Program Management Office and unit pricing other contract support services for Wildfire hardening efforts.

**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, enterprise risk management (ERM), internal audit, and insurance functions. In Shared Services, this work is Corporate Security and ERM 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 relate to safety and reliability because it contains costs for the purchase of Temporary Generation equipment in support of Public Safety Power Shutoff events.

**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

PACIFIC GAS AND ELECTRIC COMPANY
SECTION 7
COST RECOVERY:
BALANCING AND MEMORANDUM ACCOUNTS

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# PACIFIC GAS AND ELECTRIC COMPANY
# SECTION 7
# 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) 2021 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 Line 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 14, 2022.

## B. Gas Distribution

**TABLE 7-1**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 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 | 2021 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 New Environmental Regulations Balancing Account (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. | $10,820 |
| 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. | $4,677 |

(a) In 2021, approximately $114.8 under MWC LW was realigned to MWC FI as a result of a correction to the 2020 recorded data.

## C. Electric Distribution

**TABLE 7-2**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 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 | 2021 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.<br><br>This account is comprised of two subaccounts:<br><br>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.<br><br>The Reasonableness Review Subaccount tracks spending above the reasonableness threshold and actual tree mortality costs, for which there is currently no adopted amount.<br><br>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. | $682,525 |
| 2 | Expense: MWC Information Governance (IG) | Manage Var Bal Acct Processes | | | | $857,457 |

**TABLE 7-2**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 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 | 2021 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. | $146,946 |
| 4 | Capital: MWC 95 | Electric Distribution Major Emergency | | | | $159,627 |
| 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).<br>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. | $123,861 |
| 6 | AB | Support and Emergency Preparedness and Response (EP&R) | | | | |
| 7 | IG | Manage Var Bal Acct Processes | | | | $10,816 |
| 8 | HG | Electric Distribution Operational Technology | | | | $59 |
| 9 | Capital: | | | | | $319,486 |
| 10 | 08 | Electric Distribution Overhead (OH) Asset Replacement | | | | |
| 11 | 09 | Electric Distribution Automation and Protection | | | | $(11) |
| 12 | 21 | Miscellaneous Capital and EP&R | | | | $10,878 |
| 13 | 2A | Electric Distribution Preventive Maintenance Overhead | | | | $85,486 |

**TABLE 7-2**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 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 | 2021 Actuals |
|---|---|---|---|---|---|---|
| 14 | 49 | Electric Distribution Reliability Circuit/Zone | | | | $57,778 |
| 15 | Expense: | | FRMMA<br>WMPMA | 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)).<br><br>HX: The purpose of the WMPMA is to record, pursuant to Senate Bill (SB) 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. | |
| 16 | AB | Support and EP&R | | | | $46,473 |
| 17 | BA | Electric Distribution Operation Activities | | | | $5,660 |
| 18 | BF | Electric Operations Patrols/Inspections | | | | $61,086 |
| 19 | BH | Electric Distribution Routine Emergency | | | | $13,864 |
| 20 | FZ | Electric Distribution Engineering and Planning | | | | $2,979 |
| 21 | GA | Poles – Intrusive Inspection/Test and Treat Program | | | | $23,463 |
| 22 | GC | Electric Distribution Substations Operate and Maintain Assets | | | | $9,111 |
| 23 | GE | Electric Distribution Mapping | | | | $6,435 |
| 24 | IG | Manage Var Bal Acct Processes | | | | $77,167 |
| 25 | KA | Preventive Maintenance and Equipment Repair | | | | $67,542 |
| 26 | Capital: | | | | | |
| 27 | 07 | Electric Distribution Install/Replace OH Poles | | | | $341,915 |

**TABLE 7-2**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 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 | 2021 Actuals |
|---|---|---|---|---|---|---|
| 28 | 09 | Electric Distribution Automation & Protection | | | | $2,764 |
| 29 | 17 | Electric Distribution Routine Emergency | | | | $10,500 |
| 30 | 21 | Miscellaneous Capital and Emergency Preparedness & Response | | | | $6,441 |
| 31 | 23 | Implement Real Estate Strategy | | | | $266 |
| 32 | 2A | Electric Distribution Preventive Maintenance Overhead | | | | $130,831 |
| 33 | 2F | Build IT Applications and Infrastructure | | | | IT: $39,424 |
| 34 | 48 | Electric Distribution Substation Replace Other Equipment | | | | $4,176 |
| 35 | 49 | Electric Distribution Circuit/Zone Reliability Program | | | | $6,998 |
| 36 | 59 | Electric Distribution Substation Emergency Replacements | | | | $7,962 |

## D. Energy Supply: Nuclear Generation

**TABLE 7-3**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 RSAR FOR NUCLEAR GENERATION**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC | MWC Name | Balancing/ Memorandum Account Name | Disposition of Cost Recovery Request | Preliminary Statement | 2021 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 (CFR) 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. | $2,282 |
| 2 | Expense: MWC IG | Manage Var Bal Acct Processes | Department of Energy Litigation BA (DOELBA) | D.14-08-032 | The purpose of the DOELBA is to recover actual expenses for litigation costs related to the spent fuel storage from the Department of Energy | $3 |
| 3 | Capital: MWC 3I | Nuclear Safety and Security | 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 CFRs 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. | $(46) |

## E. Energy Supply: Power Generation

**TABLE 7-4**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 RSAR FOR POWER GENERATION**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC | MWC Name | Balancing/ Memorandum Account Name | Disposition of Cost Recovery Request | Preliminary Statement | 2021 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 (SA), 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. | $16,996 |
| 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 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 annual WMP, as set forth in Pub. Util. Code Section 8386.4 (a). | $5,131 |

**TABLE 7-4**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 RSAR FOR POWER GENERATION**
**(CONTINUED)**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC | MWC Name | Balancing/ Memorandum Account Name | Disposition of Cost Recovery Request | Preliminary Statement | 2021 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 | Capital: MWC 3H | Hydroelectric License and License Conditions | 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 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 SA, 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. | $16,696 |
| 4 | Capital: MWC 2L | Instl/Rpl for Hydro Safety and Reg | 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 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 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). | $469 |

## F. Customer Care

**TABLE 7-5**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 RSAR FOR CUSTOMER CARE**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC | MWC Name | Balancing/ Memorandum Account Name | Disposition of Cost Recovery Request | Preliminary Statement | 2021 Actuals |
|---|---|---|---|---|---|---|
| 1 | Expense: MWC IG | Manage Var Bal Acct Processes | WMPMA | Disposition Letter Dated March 12, 2019 | HX: The purpose of the WMPMA is to record, pursuant to SB 901 (Pub. Util. Code Section 8386.4 (a)) and the Wildfire Mitigation Plan (also known as the Wildfire Safety Plan) approved by the Commission, incremental costs incurred to implement an approved wildfire mitigation plan 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, enhanced vegetation management, 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, Fire Hazard Prevention Memorandum Account (FHPMA), FRMMA, or other cost recovery mechanisms. | $26,620 |
| 2 | Expense: MWC IG | Manage Var Bal Acct Processes | WMBA | D.20-12-005 | IO: 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. | $24,181 |
| 3 | Expense: MWC EZ | Manage Var Cust Care Processes | CDGSWMA | Res.E-5030 October 24, 2019 | IC: The purpose of the California Distributed Generation Statistics (DG Stats) Website Memorandum Account (CDGSWMA) is to track and record incremental costs for work performed by the DG Stats contractor for the three-year period of January 1, 2020 to December 31, 2022, which may not exceed PG&E's proportion, defined as 43.7% of $990,000 or $432,630. | $130 |

## G. Shared Services

**TABLE 7-6**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 RSAR FOR SHARED SERVICES**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC | MWC Name | Balancing/ Memorandum Account Name | Disposition of Cost Recovery Request | Preliminary Statement | 2021 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)).<br><br>HX: The purpose of the WMPMA is to record, pursuant to SB 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. | $1,887 |
| 2 | Expense: MWC JL | Procure Materials and Services | FRMMA/WMPMA | | | $1,341 |
| 3 | Capital: MWC 23 | Implement Real Estate Strategy | FRMMA/WMPMA | | | $40,249 |

**TABLE 7-6**
**BALANCING AND MEMORANDUM ACCOUNTS INCLUDED IN 2021 RSAR FOR SHARED SERVICES**
**(CONTINUED)**
**(THOUSANDS OF DOLLARS)**

| Line No. | MWC | MWC Name | Balancing/ Memorandum Account Name | Disposition of Cost Recovery Request | Preliminary Statement | 2021 Actuals |
|---|---|---|---|---|---|---|
| 4 | 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.<br><br>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): $3,349 |
| 5 | Expense: MWC JL | Procure Materials and Services | | | | $509 |
| 6 | Capital: MWC 04 | Fleet/Automotive Equipment | | | | Shared Services (Transportation): $461 |

# 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

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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.

aggregate, the associated aggregate MAT code imputed values were assigned to the combination of Risk Mitigation or Risk Controls.

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** | **1,098,603** |

**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 Repl/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** |