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PACIFIC GAS AND ELECTRIC COMPANY'S
JULY 10, 2017 BUDGET REPORT IN COMPLIANCE
WITH CALIFORNIA PUBLIC UTILITIES COMMISSION
DECISION 17-05-013

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TABLE OF CONTENTS

This July 10, 2017 Budget Report is submitted in compliance with California Public Utilities Commission Decision (D.) 17-05-013 (page 233).

This report is organized as follows.

Part A of this report provides an overview of Pacific Gas and Electric Company's (PG&E or the Company) companywide General Rate Case (GRC) 2017 adopted funding and budgets.

Part B contains a detailed comparison of PG&E's 2017 adopted funding levels (also referred to as imputed regulatory values) and budgets for the Company's various lines of business. Specifically, Part B contains:

- PG&E's budgeted expense and capital amounts for 2017, by Major Work Category (MWC), as of April 1, 2017.[1]
- Expense and capital imputed regulatory values for 2017, by MWC, with explanations for significant differences (greater than 10 percent or $1 million) from PG&E's April 1, 2017 budgets.

Three supporting appendices are also included. Over time, the Company may make changes to MWCs for a variety of reasons, including to improve cost tracking, eliminating MWCs that are no longer relevant, etc. Appendix A identifies the new MWCs added at the lines of business level since PG&E filed its 2017 GRC forecast on September 1, 2015. All MWC changes are also described within each of the line of business sections.

As described below, PG&E's 2017 GRC was presented using the Company's old cost allocation methodology. As a result, the 2017 GRC decision and adopted values also reflect the old cost allocation methodology. Since 2016, PG&E has been operating under its new cost allocation methodology. Therefore, to properly compare 2017 budgets—which reflect the new cost allocation methodology—and the adopted level, the adopted values must be converted to the new cost allocation methodology. The translated adopted amounts are also referred to as imputed regulatory values. This conversion is presented in Appendix B.

Appendix C is a presentation on PG&E's new cost allocation methodology presented to Energy Division on June 13, 2017, that is provided as additional background.[2]

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1 As described in "Opening Comments on the Proposed Decision Of Administrative Law Judge Roscow Of Pacific Gas and Electric Company Concerning All Non-Contested Issues Other Than The Standard For Evaluating Settlements" at pages 13–14, PG&E will use its April 1, 2017 budget in this report so that the budgeted amounts reflect the cost reduction initiative PG&E implemented in the beginning of 2017.

2 PG&E has edited the cost allocation methodology presentation material to incorporate clarifications identified during the meeting with Energy Division.

PART A – OVERVIEW

Part A – OVERVIEW

I. 2017 Expense and Capital Comparison of Budgeted Costs and Imputed Regulatory Values

As reflected in the table below, in 2017, PG&E budgeted $300 thousand more than the total imputed regulatory value for expense. For capital expenditures, in 2017, PG&E budgeted $143.3 million less than the total imputed regulatory value.

As shown in the table below, some lines of business are budgeted to spend less than the imputed regulatory value. On the expense side, there are two primary reasons for this. First, the lines of business' 2017 expense budgets do not include $45 million that is held in contingency or reserve at the beginning of each budget year to fund emergent work. PG&E does not separately request funding for this contingency in its GRC forecast. Over the course of the year, the contingency will be distributed to the lines of business based on need and will be reflected in actual expenditures at year-end. The reserve fund process is also discussed in PG&E's 2017 GRC testimony.[3]

Another factor that may cause some line of business budgets to differ from adopted levels relates to the timing of the GRC forecast submission—which ultimately informs the adopted values—relative to the timing of the budget setting process for the test year. While both the GRC forecast and budget are established through PG&E's Integrated Planning process (IPP), the GRC forecast was developed through PG&E's 2014 IPP and the 2017 budgets were established through the 2016 IPP. Given the dynamic nature of the business, which is impacted by a variety of factors including weather, technology change, new information, regulatory changes, etc., plans can change. As a result, there are differences in priorities that may arise in the two years between the development of the forecast and the development of the budget.

In addition to the timing issue described above, for capital, the 2017 GRC decision adopted the Settlement Agreement, which establishes PG&E's 2018 and 2019 capital expenditure regulatory values based on the attrition revenue requirement increases adopted by the Settling Parties, and not based on PG&E's original capital forecast. To conform to the available capital revenue requirement increase, PG&E reduced its 2018 total capital expenditures by approximately 7 percent and by an additional 2 percent in 2019, as compared to 2017 settled capital spending levels. The result of this methodology is that the post-test years' capital expenditure regulatory values are $3.6 billion for 2018 and $3.5 billion for 2019, compared to the $3.9 billion adopted for 2017 ($3.8 billion for 2017 under the new cost allocation methodology). Similar to the 2014-2016 GRC cycle, PG&E has budgeted lower capital expenditures in 2017 compared to the Decision adopted value. However, for 2018 and 2019, PG&E's budget and spending levels for capital expenditures are expected to be above the adopted amounts. This approach to budgeting maintains spending at similar levels throughout the GRC period. PG&E expects to spend the entire 2017-2019 adopted capital expenditure amounts over the 2017 GRC cycle.

Effective January 1, 2016, the Company's budget and recorded costs reflect PG&E's new cost allocation methodology. The new cost allocation methodology was described in PG&E's March 31, 2016 Budget Compliance Report, as well as in

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3 Exhibit (PG&E-2), Chapter 4, p. 4-7, Section D.

PG&E's 2017 GRC testimony.[4] In brief, the new cost allocation methodology uses a “labor only” labor rate which no longer includes support and overhead costs. These costs are now budgeted and recorded through separate line items for the expense programs. For capital jobs, consistent with the Federal Energy Regulatory Commission Uniform System of Accounts rules, the new cost allocation methodology allocates the proportionate amount of the support and overhead costs to the work. Accounting for existing balancing account activities are treated similar to capital work to ensure balancing accounts reflect fully allocated costs.

For this report, PG&E has translated the 2017 adopted values from D.17-05-013 into imputed regulatory values to reflect PG&E’s new cost allocation methodology. Appendix B includes PG&E’s 2017 imputed regulatory values at the MWC level presented using PG&E’s new cost allocation methodology as well as the approach PG&E has taken to translate the 2017 GRC imputed regulatory values from the old cost allocation methodology presentation to the new cost allocation methodology presentation. Appendix C includes a presentation on PG&E’s new cost allocation methodology which provides additional background and technical information on the new cost allocation methodology.

4 Exhibit (PG&E-12), Chapter 2, Section D.

2017 BUDGET VS. IMPUTED EXPENSE BY LINE OF BUSINESS
(MILLIONS OF DOLLARS)

Line No.	Line of Business	2017 Adopted Regulatory Values: Old Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Budget: New Cost Model	2017 Budget vs. Imputed Regulatory Values (NCM) Difference (%)	2017 Budget vs. Imputed Regulatory Values (NCM) Difference ($)
1	Gas Distribution	$510.7	$380.2	$369.1	-2.9%	($11.1)
2	Electric Distribution	715.0	622.4	597.2	-4.1%	(25.2)
3	Customer Care	398.9	315.5	339.6	7.6%	24.1
4	Nuclear Generation	423.3	355.0	383.5	8.1%	28.6
5	Power Generation	252.0	205.3	206.6	0.6%	1.3
6	Energy Policy & Procurement	63.9	46.9	41.8	-11.0%	(5.1)
7	IT	286.0	294.8	241.5	-18.1%	(53.3)
8	Shared Services	136.0	198.8	194.6	-2.1%	(4.2)
9	Corporate Services	313.4	272.8	275.3	0.9%	2.5
10	Benefits, Payroll Taxes & Reimbursable Revenues	N/A	407.5	405.2	-0.6%	(2.3)
11	Subtotal	$3,099.2	$3,099.2	$3,054.5	-1.44%	(44.7)
12	Allocated Contingency[(a)]			45.0	N/A	45.0
13	Total	**$3,099.2**	**$3,099.2**	**$3,099.5**	**0.01%**	**$0.3**

(a) "Allocated Contingency," refers to funds provided to the lines of business over the course of the year for unforeseen events that require a timely and flexible response outside the standard planning and budgeting process.

2017 BUDGET VS. IMPUTED CAPITAL BY LINE OF BUSINESS
(MILLIONS OF DOLLARS)

Line No.	Line of Business	2017 Adopted Regulatory Values: Old Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Budget: New Cost Model	2017 Budget vs. Imputed Regulatory Values (NCM) Difference (%)	2017 Budget vs. Imputed Regulatory Values (NCM) Difference ($)
1	Gas Distribution	$1,001.0	$973.1	$930.9	-4.3%	($42.2)
2	Electric Distribution	1,694.2	1,662.3	1,596.8	-3.9%	(65.5)
3	Customer Care	196.8	183.9	151.5	-17.6%	(32.4)
4	Nuclear Generation	173.8	178.1	203.1	14.0%	25.0
5	Power Generation	287.8	290.6	292.9	0.8%	2.3
6	Energy Policy & Procurement	18.6	19.0	8.9	-52.9%	(10.0)
7	IT	200.6	204.5	135.9	-33.5%	(68.5)
8	Shared Services	293.3	290.5	350.0	20.5%	59.5
9	Corporate Services	36.9	37.5	26.0	-30.6%	(11.5)
10	Total	**$3,903.0**	**$3,839.4**	**$3,696.1**	**-3.7%**	**($143.3)**

PART B – 2017 BUDGETED VS. IMPUTED COMPARISON

PART B – 2017 BUDGETED VS. IMPUTED COMPARISON

SECTION 1 – Summary and Background Information

The information presented in this report conforms to the organizational structure in PG&E's 2017 GRC showing. Projects previously funded separately that were incorporated into the 2017 GRC (e.g., Smart Grid Pilots, Solar Photovoltaic Projects) are included in the 2017 data presented here. In addition, consistent with the 2017 GRC, Information Technology (IT) and Corporate Real Estate (CRE) costs are presented in a decentralized fashion, meaning that line of business specific IT and CRE program costs are included in the various lines of business that have initiated the programs.

Summarized below are the significant drivers of the differences between 2017 adopted amounts (also referred to as imputed regulatory values which PG&E translated using its new cost allocation methodology) and expense and capital budgets for each line of business. Part A of this report includes a general explanation as to why some line of business budgets may differ from adopted amounts.

Gas Distribution – As of April 2017, the gas distribution 2017 expense budget was $11.1 million or 2.9 percent below the adopted amount. The gas distribution capital budget is $42.2 million or 4.3 percent below the adopted amount. In addition to the factors described in Part A, the difference between the 2017 expense budget and the adopted amount is due to the gas organization's goal to capture efficiencies for the gas distribution portfolio of work (that efficiency goal is reflected in MWC AB). Areas where gas distribution expense budget is greater than adopted amounts include: Cathodic Protection, Gas Distribution Integrity Management, and Fleet Services. The primary difference between the 2017 capital budget and the adopted amount is a decrease in the projected leak find rate compared to the GRC forecast and the reprioritization of technology capital investments to higher priority areas within the Company. Areas where the gas distribution capital budget is greater than adopted amounts include: Gas Work at the Request of Others (WRO), Gas Distribution New Capacity, and Gas Pipeline Replacement Program.

Electric Distribution – The electric distribution 2017 expense budget is $25.2 million or 4.1 percent below the adopted amount. The electric distribution 2017 capital budget is $65.5 million or 3.9 percent below the 2017 adopted amount. Primary areas where budget is less than adopted include operational support costs from partner lines of business (e.g., Human Resources), electric WRO, and a delay in the surge arrester grounding program. Electric distribution expense areas where work is planned over the adopted amounts include major emergency, electric distribution support costs, and customer field service work. For electric distribution capital, budgets are lower than adopted for capacity, new customer connections, technology projects and reliability work. These reductions are partially offset by areas where the electric distribution capital budget is greater than adopted amounts, including pole replacement, substation switchgear projects, routine and major emergency, and WRO.

Customer Care – Customer Care's 2017 expense budget is $24.1 million or 7.6 percent above the 2017 adopted amount. Customer Care's 2017 capital budget is $32.4 million or 17.6 percent below the 2017 adopted amount. Expense areas in which

Customer Care has budgeted to spend more than adopted include New Revenue Development and customer service activities such as program and rate education and outreach. Expense areas where Customer Care is budgeting less than adopted by capturing efficiencies include manual meter reading, electric meter maintenance work, Contact Centers and Customer Service Offices. For capital, Customer Care has budgeted less than adopted on gas meter exchanges, technology capital investments, and cybersecurity solutions due to efficiencies. These reductions are partially offset by additional budgeted capital costs for the SmartMeter™ communications network to enable manual meter reading savings and to enhance coverage and reliability.

Nuclear Generation – Nuclear Generation's 2017 expense budget is $28.6 million or 8.1 percent above the 2017 adopted amount. Nuclear Generation's 2017 capital budget is $25.0 million or 14.0 percent above the 2017 adopted amount. For expense, the primary reasons budgeted spend is greater than adopted include higher plant security costs, increase in fees for once through cooling, higher plant chemical and outage costs, and additional regulatory requirements to implement a cybersecurity project. Capital areas where Nuclear Generation is budgeting to spend more than adopted include the Baffle Bolt Replacement project and additional regulatory work required for National Fire Protection Association fire detection upgrades, cybersecurity and Fukushima Daiichi response work. These areas of increased capital budget are offset in part by a reduction in IT projects.

Power Generation – Power Generation's 2017 expense budget is $1.3 million or 0.6 percent above the 2017 adopted amount. Power Generation's 2017 capital budget is $2.3 million or 0.8 percent above the 2017 adopted amount. The primary reason the expense budget is greater than adopted is due to fleet. This increase is partially offset by reclassifying certain repair project from expense to capital, tunnel repair work being completed early (2016), delay in issuance of the renewal of certain FERC licenses, and cancellation of the Chili Bar runner repair project. Capital areas where budget is above adopted include a few spillway projects that were shifted from 2016 to 2017 and various road repair projects. Areas where capital is budgeted to be lower than adopted include reprioritization of project work to support Haas Unit 2 governor work, delays in materials for a Pit 5 project, and a few IT projects.

Energy Policy and Procurement (EP&P) – EP&P's 2017 expense budget is $5.1 million or 11.0 percent below the 2017 adopted amount. EP&P's 2017 capital budget is $10.0 million or 52.9 percent below the 2017 adopted amount. For expense, EP&P has budgeted less than adopted amount in work associated with acquiring and managing electric supply and maintaining applications and infrastructure. Primary drivers of planned spend less than adopted include higher than expected vacancies and lower than expected competitive solicitations project spend. Capital areas where work is budgeted under adopted amounts include lower implementation costs for cybersecurity solutions and rescheduled efforts on power scheduling and analytics compliance upgrades.

Information Technology (IT) – IT's 2017 expense budget is $53.3 million or 18.1 percent below the adopted amount. IT's 2017 capital budget is $68.5 million or 33.5 percent below the adopted amount. IT expense areas where work is planned under the adopted amount include support services for Business Technology applications, vendor support services for Information and Operations, and End-User

Service support. Primary drivers of budgeted expense less than adopted amounts are initiatives that enable more effective IT support, such as: implementing Managed Services in Business Technology; negotiating better vendor contracts in Infrastructure and Operations; and changing policy and procedures to consolidate and improve support in End User Services. The underspending is partially offset by implementation costs for technology solutions that rely on vendor-based services for data consolidation, collaboration and big data analytics. IT capital areas where budget is under the adopted amount include re-scheduled replacements for Network, Data Center and User Technology assets; and re-scheduled system improvements for Network and Data Center Technologies. The primary driver of the planned reduction is to fund work associated with other high priority areas of the Company. The underspending is partially offset by focused efforts on building better tools to improve the tracking, monitoring and response time of our assets as well as adding better functionality and capability to PG&E's asset support systems.

Shared Services – Shared Service's 2017 expense budget is $4.1 million or 2.1 percent below the adopted amount. Shared Service's 2017 capital budget is $59.5 million or 20.5 percent above the 2017 adopted amount. Primary drivers of Shared Services' budgeted expense less than adopted amounts are headcount reductions in Sourcing and Safety and Health, as well as enterprise re-prioritization of Corporate Real Estate building maintenance. The primary driver of planned Shared Services capital expenditures above adopted amounts is Corporate Real Estate as additional work is funded for service center optimization, regional office expansions and building maintenance.

More information is provided in the sections below, which provide variance explanations by MWC between the 2017 adopted and budgeted amounts where the differences are at least 10 percent or $1 million. The information in this report is arranged by line of business, as follows:

Section 2 – Gas Distribution
Section 3 – Electric Distribution
Section 4 – Customer Care
Section 5 – Nuclear Generation
Section 6 – Power Generation
Section 7 – Energy Policy and Procurement
Section 8 – Information Technology
Section 9 – Shared Services

In Appendix A, PG&E provides a mapping of MWC additions at the lines of business level since PG&E's presentation of the 2017 GRC.

In Appendix B, PG&E provides the regulatory imputed values and the approach PG&E took to translate the 2017 GRC Decision regulatory imputed values from PG&E's prior cost allocation methodology to the new cost allocation methodology the Company uses to manage its business and for all internal/external reporting purposes.

In Appendix C, PG&E provides a PowerPoint presentation on PG&E's new cost allocation methodology which includes additional background and technical information about the new cost allocation methodology.

SECTION 2
Gas Distribution
Detailed Variance Explanations

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 2-1
GAS DISTRIBUTION 2017 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Support	AB	($30,388)	$6,262	($36,650)
2	Provide Field Service	DD	45,567	48,860	(3,293)
3	Leak Survey	DE	21,816	19,498	2,318
4	Locate & Mark	DF	27,583	23,784	3,799
5	Cathodic Protection	DG	22,716	9,273	13,443
6	Develop & Provide Training	DN	3,321	3,915	(594)
7	Meter Protection Program	EX	1,133	988	145
8	Operate Gas Distribution System	FG	10,751	13,099	(2,348)
9	Preventive Maintenance (Gas)	FH	17,471	14,467	3,004
10	Corrective Maintenance (Gas)	FI	78,790	85,344	(6,554)
11	Gas Mapping	GF	4,284	3,853	431
12	Gas Distribution Planning & Operations Engineering	GG	7,195	7,601	(406)
13	Manage Energy Efficiency-NonBA	GM	5,204	3,563	1,641
14	Gas Research, Development & Demonstration	GZ	2,297	1,472	825
15	Change/Maintain Used Gas Meters	HY	2,718	1,808	910
16	Gas Distribution Integrity Management (NonBA)	JQ	43,054	30,102	12,952
17	Maintain IT Applications & Infrastructure	JV	26,220	26,279	(59)
18	Gas Expense WRO Activities	LK	4,229	4,253	(24)
19	Operational Management	OM	11,894	14,294	(2,400)
20	Operational Support	OS	26,077	40,552	(14,475)
21	Fleet Services[(a)]	AB	37,154	20,883	16,271
22	Total		$369,085	$380,151	($11,065)

(a) In the old cost model, fleet services expense was embedded in various MWCs. In the new cost model, fleet services expense is centralized as shown above.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 2-2
GAS DISTRIBUTION 2017 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Tools and Equipment	05	($6,633)	$2,912	($9,545)
2	Gas Pipeline Replacement Program	14	398,545	386,855	11,690
3	Gas Meter Protection	27	264	346	(82)
4	Gas Distribution Customer Connections	29	77,529	75,507	2,022
5	NGV – Station Infrastructure	31	2,588	3,967	(1,379)
6	Gas Distribution New Capacity	47	59,184	44,129	15,054
7	Gas Distribution Reliability	50	213,355	260,449	(47,094)
8	Gas Work at the Request of Others	51	78,508	59,308	19,200
9	Gas Distribution Emergency Response	52	1,177	751	426
10	Install New Gas Meters	74	2,781	2,939	(158)
11	Manage Buildings	78	7,806	16,440	(8,633)
12	Build IT Applications & Infrastructure	2F	19,344	40,005	(20,661)
13	Gas Distribution Replace/Convert Customer HPRs	2K	49,165	40,136	9,029
14	Gas Distribution Control Operations Assets	4A	27,314	39,333	(12,019)
15	Total		$930,928	$973,078	($42,150)

MWC Descriptions – Expense

MWC AB – Support – encompasses general support of the gas distribution system, as well as a number of smaller programs, including: (1) Miscellaneous expenses such as industry association dues; (2) Collection point for zero sum allocation type work such as Standard Cost Variance,[1] Blanket Purchase Orders and Working Stock; and (3) Fleet Services. MWC AB also includes the total planned efficiency offsets from various gas distribution efficiency initiatives.

MWC DD – Provide Field Services – includes customer generated requests for service that require site visit by field technician. 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. Customers initiate requests for service through PG&Es call centers or local offices. Service orders are primarily dispatched via Mobile Connect (FAS) directly to ruggedized laptops installed in service vehicles.

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

- Before and during maximum allowable operating pressure updates of gas distribution facilities;
- Before, during and after some major third-party construction projects;
- For leak rechecks; and
- A customer or third-party complains of gas leakage.

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1 Standard Cost Variance (SCV) represents the difference between actual costs incurred and the amount charged out by employees at a predetermined rate (i.e., standard cost). Costs charged out are calculated using productive hours multiplied by a planned standard hourly rate. When results match initial estimates, SCV should be minimal. That said, while initial estimates do factor in external factors (e.g., extreme weather) based on historical data, actual results inevitably vary resulting in a SCV.

The following is a simplified example of the standard cost calculation and how SCVs occur. Based on the historic pattern of Team A's productivity and anticipated workload, it is projected that Team A will have a monthly cost of $100,000 for 10 employees and will perform 1,000 hours of work in a month. The resulting standard rate for Team A is $100 per hour ($100,000/1,000 hours). If Team A completes 1,000 hours of work in the month according to plan, Team A will have a zero SCV. However, if Team A does not complete all the planned work, e.g., due to unanticipated bad weather, and only completes 950 hours of work, Team A will have an unfavorable SCV of $5,000 (50 hours × $100 per hour).

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

MWC DG – Cathodic Protection – 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 Cathodic Protection (CP) through the use of either an impressed system or galvanic anodes as required by federal pipeline safety regulations.

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

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

MWC FG – Operate Gas System – 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. Additionally, this program includes occasional manual operations to provide necessary capacity during peak demand periods in the morning (e.g., using a compressed (CNG) or liquefied (LNG) natural gas tanker to inject gas, manually opening separation valves to redirect gas, or manually bypassing regulator station equipment to flow more gas).

MWC FH – Preventive Maintenance – is a key system safety and integrity activity and includes work to comply with pipeline safety regulations that require PG&E to conduct periodic or routine maintenance on its gas distribution system. Preventive maintenance work includes regulator station maintenance, maintenance on mains and services, distribution valve replacement, service valve replacement, and overall preventive gas maintenance support.

MWC FI – 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, cathodic protection restoration, regulator station repair, and distribution valve repair.

MWC GF – Gas Mapping – encompasses tracking the size, material type, location, configuration, and other essential information needed to monitor and identify over 42,000 miles of underground gas main and nearly 3.3 million gas services. Gas Mapping updates and maintains the gas distribution system maps and records.

MWC GG – Gas 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.

MWC GM – Natural Gas Fueling Facilities Operation and Maintenance (O&M) – includes the work required to maintain and operate existing natural gas fueling facilities. PG&E operates over 800 Natural Gas Vehicles (NGVs) and has over 6,000 customers that use their natural gas fueling facilities. PG&E's network of natural gas fueling stations also serves as a back up to customer owned stations that are not available due to breakdowns or maintenance.

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

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 > 1,000 CFH and < or = 1,000 CFH. Outlet Valve > or = 2" in diameter and < 2" in diameter.
- Preventive Maintenance work performed on meter sets >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.

MWC JQ – Distribution Integrity Management Program (DIMP) – includes efforts to enhance gas distribution system safety by identifying risks to the gas distribution system and addressing those risks. The program is mandated by Federal

regulations. The types of work that this funding would cover 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, marker ball installation, and Aldyl-A.

MWC JV – Maintain Applications and Infrastructure – includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems and infrastructure.

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

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

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.

MWC OS – Operational Support – includes labor and employee-related costs to provide services and support that are unrelated to supervision and management.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 2-3
GAS DISTRIBUTION 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	AB	($30,388)	$6,262	($36,650)	Decrease due to yet-to-be identified efficiencies for the entire Gas Distribution expense portfolio. Efficiency targets were not set at the MWC level.
2	DD	45,567	48,860	(3,293)	Decrease due to reduction in budget to reflect lower unit costs as a result of identified efficiencies; no change in volume of work.
3	DE	21,816	19,498	2,318	Increase due to higher unit costs. Volume of work in line with updated leak find rates.
4	DF	27,583	23,784	3,799	Increase due to higher volume of Locate and Mark tickets (based on 2016 Actuals).
5	DG	22,716	9,273	13,443	Increase due to significant change in Corrosion program driven by new work (e.g., the Isolated Steel Service Protection program, new casings program, and resurvey work) and change in units and unit costs.
6	DN	3,321	3,915	(594)	Decrease due to lower costs (based on 2016 Actuals) as well as anticipated efficiencies.
7	EX	1,133	988	145	Increase due to higher cost of executing work.
8	FG	10,751	13,099	(2,348)	Decrease due to reduced contractor costs, including efficiencies.
9	FH	17,471	14,467	3,004	Increase due to changes in scope, including increased unit cost specifically for corrosion corrective work.
10	FI	78,790	85,344	(6,554)	Decrease due to lower than expected volume of leak repair work (based on 2016 Actuals).
11	GF	4,284	3,853	431	Increase due to increase in scope of work, e.g., additional Corrective Action Program (CAP) items and other corrective field data requests. Budget in line with 2016 Actuals.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 2-3
GAS DISTRIBUTION 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
12	GG	7,195	7,601	(406)	Immaterial variance
13	GM	5,204	3,563	1,641	Increase due to higher unit costs for inspections of gas fueling stations.
14	GZ	2,297	1,472	825	Increase due to change in scope of work – new projects requiring two additional full-time employees.
15	HY	2,718	1,808	910	Increase due to higher volume of work as a result of the atmospheric corrosion surveys.
16	JQ	43,054	30,102	12,952	Increase due to 1) anticipated increase in unit cost for cross bore inspections based on 2016 Actuals; and 2) hiring additional Dig-in Reduction Team (DiRT) investigators to increase effectiveness of the 811 program.
17	JV	26,220	26,279	(59)	Immaterial variance.
18	LK	4,229	4,253	(24)	Immaterial variance.
19	OM	11,894	14,294	(2,400)	Decrease due to lower headcount.
20	OS	26,077	40,552	(14,475)	Decrease due to lower headcount.
21	AB	37,154	20,883	16,271	Increase due to vehicle rentals being fully centralized in Fleet beginning in 2016, depreciation increase due to incremental vehicle purchases and replacements of existing units, fuel increase, and escalation for labor and parts.
22	Total	$369,085	$380,151	($11,065)	

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.

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

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

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.

MWC 31 – Natural Gas Vehicle (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) Cathodic protection and underground corrosion protection;
2) Upgrading stations from 3,000 psi to 3,600 psi 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.

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

MWC 50 – Gas Distribution Reliability – includes installation or replacement of gas facilities to: improve system safety and reliability, replace aging facilities (which have reached the end of their useful life or have increasing failure rates), and maintain compliance with pipeline safety regulations. Facilities replaced include: mains, services, regulator stations, cathodic protection equipment, electronic chart recorders and remote cathodic protection monitoring equipment.

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

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.

MWC 74 – Gas Metering Capital – includes regulator replacement labor to remove and install new regulators and meters and regulators for new business connections and labor to install.

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

Maintenance includes:

1) Compliance – Scheduled Meter Change outs (SMC) < or = 1,000 CFH
2) Compliance – Periodic Meter Change outs, every 10 years (PMC) > 1,000 CFH
3) Corrective Maintenance work with replacement of meter performed on meter sets < or = 1,000 CFH and > 1,000 CFH; Meter outlet valve > or = 2'' diameter
4) Meter removal (retire) < or =1,000 CFH and > 1,000 CFH
5) New Business < 400 CFH and 400 - 1,000 CFH
6) Capital projects (i.e., ECAT Replacement)
7) SmartMeter™ gas module replacements

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

MWC 2F – Build Information Technology (IT) Applications and Infrastructure – includes the costs to design, develop and enhance applications, systems and infrastructure technology solutions.

MWC 2K – Gas Distribution Replace/Convert Customer HPRs – is a key safety and integrity program and includes the replacement of gas customer High Pressure Regulators (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 devices, electronic recorders, and similar instrumentation assets and related tools. MWC 4A captures costs associated with the development of software tools to support the collection, retention, and presentation of data related to the Control Center. Capital outlays support telecommunication radio system assets to monitor and control the gas distribution network.

PACIFIC GAS AND ELECTRIC COMPANY
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GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 2-4
GAS DISTRIBUTION 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	05	($6,633)	$2,912	($9,545)	Decrease due to yet-to-be identified efficiencies for the entire Gas Distribution capital portfolio. Efficiency targets were not set at the MWC level.
2	14	398,545	386,855	11,690	Increase primarily due to a higher unit cost than planned mostly driven by additional costs for sewer inspections, stricter city requirements for paving, and increased costs for traffic control.
3	27	264	346	(82)	Decrease due to lower unit costs as a result of expected efficiencies from the standardization of traffic guidelines and reduction in plumbing contracts.
4	29	77,529	75,507	2,022	Increase due to higher volume of work and higher unit costs (e.g. construction, and paving) for residential work.
5	31	2,588	3,967	(1,379)	Decrease due to budget reduction to accommodate other higher priority work.
6	47	59,184	44,129	15,054	Increase due to higher unit cost driven by different work mix and location.
7	50	213,355	260,449	(47,094)	Decrease due to less volume of work budgeted for leak repairs due to lower leak find rate.
8	51	78,508	59,308	19,200	Increase due to higher unit costs. 2017 budget in line with 2016 Actuals.
9	52	1,177	751	426	Increase due to the average number of dig-ins and higher average cost for the last three years.
10	74	2,781	2,939	(158)	Immaterial variance.
11	78	7,806	16,440	(8,633)	Decrease due to transfer of $8.3M from Gas to Corporate Real Estate for Hot Backup Work.

PACIFIC GAS AND ELECTRIC COMPANY
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GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 2-4
GAS DISTRIBUTION 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
12	2F	19,344	40,005	(20,661)	Decrease due to reprioritization of technology capital investments to higher priority areas of the Company; a reduction in the project delivery costs of mobile solutions; enhancements/new functionality planned for the Gas Distribution Control Center; and the rescheduling of the Gas Distribution Geographic Information System to roll out over the 3-year GRC period.
13	2K	49,165	40,136	9,029	Increase due to higher expected unit cost driven by different work mix and location.
14	4A	27,314	39,333	(12,019)	Decrease due to revision of the SCADA program strategy to complete program by 2022 instead of 2020.
15	Total	$930,928	$973,078	$(42,150)	

SECTION 3
Electric Distribution
Detailed Variance Explanations

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
ELECTRIC DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 3-1
ELECTRIC DISTRIBUTION 2017 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model[(a)]	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Support and Emergency Preparedness and Response	AB	$20,190	$9,436	$10,754
2	Electric Distribution Operation Activities	BA	19,657	26,025	(6,367)
3	Perform Reimbursable Work for Others	BC	0	0	0
4	Patrols and Inspections	BF	29,380	34,764	(5,383)
5	Electric Distribution Routine Emergency	BH	47,227	51,541	(4,314)
6	Maintenance of Other Equipment	BK	1,530	1,877	(347)
7	Customer Field Service Work	DD	20,352	15,979	4,373
8	Develop & Provide Training	DN	3,200	7,239	(4,039)
9	New Customer Connection Service Inquiry Activities	EV	11,669	8,391	3,277
10	Work Requested by Others (WRO)	EW	(33)	12,895	(12,927)
11	Electric Engineering and Planning[(a)]	FZ	14,828	13,919	909
12	Poles-Intrusive Inspection/Test and Treat	GA	12,493	13,049	(556)
13	Operate and Maintain Substations	GC	27,496	25,372	2,124
14	Electric Distribution Mapping	GE	4,161	5,146	(985)
15	Vegetation Management Balancing Account	HN	200,000	201,033	(1,033)
16	Distribution Automation and Protection Support	HX	2,363	1,370	993
17	Electric Distribution Major Emergency	IF	66,200	51,438	14,762
18	Bill Customers	IS	1,000	0	1,000
19	Maintain IT Applications & Infrastructure	JV	7,525	6,182	1,343
20	Preventive Maintenance and Equipment Repair, Overhead	KA	38,471	46,458	(7,987)
21	Preventive Maintenance and Equipment Repair, Underground	KB	14,793	15,712	(919)
22	Preventive Maintenance and Equipment Repair, Network	KC	3,591	4,129	(538)
23	Operational Management	OM	11,183	18,776	(7,594)
24	Operational Support	OS	7,421	24,432	(17,011)
25	Fleet Services[(b)]	AB	32,531	27,279	5,252
26	Total		$597,230	$622,442	($25,213)

(a) In the 2017 GRC MWC FZ included engineering costs that were subsequently moved to the new Grid Integration and Innovation (GII) group formed in October 2016. The associated 2017 budget now resides in MWC CY in Customer Care and Energy Policy and Procurement.

(b) In the old cost model, fleet services expense was embedded in various MWCs. In the new cost model, fleet services expense is centralized as shown above.

PACIFIC GAS AND ELECTRIC COMPANY
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ELECTRIC DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 3-2
ELECTRIC DISTRIBUTION 2017 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Tools and Equipment	05	$5,198	($18,143)	$23,341
2	Electric Distribution Line and Equipment Capacity	06	66,871	89,337	(22,466)
3	Pole Replacement	07	147,778	86,328	61,450
4	Base Reliability Program	08	34,556	45,091	(10,536)
5	Electric Distribution Automation and Protection	09	50,739	48,174	2,565
6	Electric Work at the Request of Others	10	86,869	76,403	10,465
7	Electric Distribution Customer Connections	16	353,670	399,720	(46,050)
8	Electric Distribution Routine Emergency	17	161,764	146,893	14,870
9	Emergency Preparedness & Response	21	2,700	8,022	(5,322)
10	Implement Real Estate Strategy/Manage Buildings	23	0	5,652	(5,652)
11	Electric Distribution Work at the Request by Others - Rule 20A	30	45,000	57,919	(12,919)
12	Electric Distribution Substation Capacity	46	20,254	67,755	(47,501)
13	Electric Distribution Replace Substation Equipment	48	117,181	80,892	36,289
14	Targeted Reliability Program	49	66,496	80,428	(13,932)
15	Electric Distribution Substation Transformer Replacements	54	34,533	42,686	(8,153)
16	Electric Distribution Underground Asset Replacement	56	87,575	107,750	(20,174)
17	Electric Distribution Substation Safety and Security	58	2,614	2,315	299
18	Electric Distribution Substation Emergency Replacement	59	24,866	45,517	(20,651)
19	Electric Operations Control Center Facility	63	4,266	1,096	3,170
20	Electric Distribution Major Emergency	95	73,200	56,474	16,726
21	Electric Distribution Preventive Maintenance, Overhead	2A	120,633	118,036	2,598
22	Electric Distribution Preventive Maintenance, Underground	2B	45,342	43,748	1,594
23	Electric Distribution Preventive Maintenance, Network	2C	19,195	20,130	(935)
24	Build IT Applications & Infrastructure	2F	25,543	50,126	(24,583)
25	Total		$1,596,843	$1,662,351	($65,508)

MWC Descriptions – Expense

MWC AB – Support and Emergency Preparedness and Response – includes general support of the electric distribution system, including performance improvement initiatives, interdepartmental meter costs, consulting fees, as well as a number of smaller projects such as the Electric Magnetic Fields program. In addition, MWC AB captures standard cost variance of multiple electric distribution workgroups in Electric Operations,[1] an offset for productivity improvements, and costs for fleet services. This major work category also includes costs for PG&E's Emergency Preparedness and Response organization.

MWC BA – Electric Distribution Operation Activities – includes distribution control center and field operations, including work performed by Distribution Operators, and engineers. This work includes operating switches to transfer load between circuits, isolating customers or de-energizing sections of line during planned construction or maintenance, and reconfiguring circuits to mitigate unplanned situations such as dig-ins, car pole accidents and storms. Beginning in 2017, costs for the Dispatch and Scheduling department are captured in MWC DD.

MWC BC – Perform Reimbursable Work for Others – includes costs and the reimbursable expenses incurred to provide mutual assistance support to other utilities.

MWC BF – Patrols and Inspections – includes patrols and inspections of overhead (OH) and underground (UG) electric distribution facilities per General Order 165; patrols and inspection of OH facilities in wildfire areas; infrared inspections; testing and inspection of OH and UG line equipment; special patrols and inspections; and other work associated with electric distribution system maintenance.

MWC BH – Electric Distribution Routine Emergency – includes response to OH or UG outages that occur during normal conditions including routine emergency response work as well as work issued using PG&E's Field Automation System (FAS) for either emergency response or system reliability.

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.

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1 Standard Cost Variance (SCV) is described in the Gas Distribution expense Section 2 of this report.

MWC DD – Customer Field Service Work – covers 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 2017, this work also includes the dispatch and scheduling of work to troublemen in the field.

MWC DN – Develop and Provide Training – includes revising existing and creating new training materials and course curriculums for PG&E's workforce.

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.

MWC EW – Work Requested by Others (WRO) – Maintenance – 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 (GIS): Managing the electric interconnection process for CPUC and Federal Energy Regulatory Commission jurisdictional customer generation projects connected at 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 distribution voltage interconnections that are funded via Electric Tariff Rule 21. Pre-parallel inspections are performed to ensure safe and reliable operation of customer-owned generators paralleled with PG&E's grid.

MWC FZ – Electric Engineering and Planning – supports many programs that require engineering and planning services, including the Electric Distribution Capacity, Electric Distribution Reliability, and Underground Asset Management programs. This program also supports: investigating secondary voltage complaints that troublemen cannot resolve on the first visit; investigation of down power lines; electric distribution Diagnostic Center; and operational field work that electric planning personnel initiate, such as phase balancing and replacing fuses that are projected to be overloaded.

MWC GA – Poles - Intrusive Inspection/Test and Treat – includes activities to assess the condition of the lower section of wood poles and preserve the poles' wood strength through the application of chemicals. Based on results of pole test activities, where the pole condition warrants reinforcement, the pole is restored to its original strength, extending the pole's serviceable life. This program also includes coordination of billing joint owners and tenants for their share of costs for work performed on jointly owned or leased facilities.

MWC GC – Operate and Maintain Substations – includes operations, preventive maintenance and corrective maintenance within distribution substations.

- Preventive maintenance includes: substation facility and equipment inspections; switching and restoring service to customers; calibrating and adjusting substation equipment; diagnostic testing; overhauls; washing insulators; maintenance of Capitalized Emergency Material (CEM) equipment; maintaining station logs. Miscellaneous activities such as yard repairs, janitorial work and landscaping.
- Corrective maintenance includes: restoration and repair of failed equipment; 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; building maintenance, vegetation management, rental contracts, and system funded expense projects such as transformer relocations.

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.

MWC HN – Vegetation Management Balancing Account – includes the cost to patrol, inspect and maintain clearance for approximately five million trees along PG&E's OH high voltage 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.

MWC HX – Distribution Automation and Protection Support – includes engineering and technical support for automation and protection equipment. Also includes the service and software costs associated with distribution SCADA software. Engineering support consists of three components: (1) Automation Engineering support; (2) Protection Engineering support; and (3) SCADA Specialist support.

MWC IF – Electric Distribution Major Emergency – includes response work to OH or UG outages when a division Operations Emergency Center (OEC) has been activated and consistent with PG&E's Major Emergency Balancing Account Criteria Guidance Document. Beginning in 2014, these costs are included in the two-way Major Emergency balancing account authorized by Decision 14-08-032.

MWC JV – Maintain IT Applications and Infrastructure – includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems and infrastructure.

MWC KA – Preventive Maintenance and Equipment Repair, Overhead – includes repair of OH facilities; repair of OH Critical Operating Equipment (COE); repair of streetlights and group streetlight replacements; refurbishment and overhaul of specific types of OH distribution line equipment; repair of OH facilities to address migratory bird requirements; investigate and respond to radio television interference (RTVI) inquiries; wash insulators; investigation of idle facilities; grounding surge arresters; wood pole bridge bonding; and other OH maintenance work.

MWC KB – Preventive Maintenance and Equipment Repair, Underground – includes repair of UG facilities; repair of UG COE; grounding WYE transformers; and other UG line maintenance work.

MWC KC – Preventive Maintenance and Equipment Repair, Network – includes repair of network facilities; repair of network COE; repair of network equipment and overhaul of network protectors; oil sampling and other network maintenance work.

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.

MWC OS – Operational Support – includes labor- and employee-related costs that provide services and support that are unrelated to supervision and management.

New MWC Descriptions – Expense

MWC IS – Process Customer Bills – includes work in support of streetlight inventory and LS-2 Streetlight Audit Services, and the Light Emitting Diode (LED) and other streetlight programs.

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ELECTRIC DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 3-3
ELECTRIC DISTRIBUTION 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	AB	$20,190	$9,436	$10,754	Increase primarily due to a variety of costs, for example, consulting fees and Applied Technology Services expenses, which were not previously included in MWC AB. Increase also due to higher interdepartmental energy usage. Additionally, the imputed regulatory value contains an efficiency offset that will be realized in other MWCs.
2	BA	19,657	26,025	(6,367)	Decrease due to schedule and dispatch work moved to MWC DD, and Volt VAR Optimization (VVO) support moved to MWC FZ to better align work and cost tracking.
3	BC	0	0	0	Immaterial variance.
4	BF	29,380	34,764	(5,383)	Decrease due to a lower volume of underground and overhead infrared inspections, and use of lower cost resources.
5	BH	47,227	51,541	(4,314)	Decrease due to less pre-staging in support of public events, and reduction of Troubleman overtime due to shift changes. These adjustments were made as part of an expense efficiency initiative. Decrease also due to more equipment replacements (capital) rather than repairs (expense) to improve reliability of these facilities moving forward.
6	BK	1,530	1,877	(347)	Decrease due to reduction in the number of oil-filled distribution equipment units planned to be repaired in 2017.
7	DD	20,352	15,979	4,373	Increase due to schedule and dispatch work authorized in MWC BA moved to MWC DD.
8	DN	3,200	7,239	(4,039)	Decrease due reprioritization of the Pathway to Supervisor and Pathway to Superintendent programs to fund higher priority work.
9	EV	11,669	8,391	3,277	Increase due to higher new business growth load checks.
10	EW	(33)	12,895	(12,927)	Decrease due to expected Net Energy Metering credits not included in the 2017 GRC forecast.

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TABLE 3-3
ELECTRIC DISTRIBUTION 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
11	FZ	14,828	13,919	909	Immaterial variance.
12	GA	12,493	13,049	(556)	Immaterial variance.
13	GC	27,496	25,372	2,124	Increase due to higher volume of relay test work, and emergent substation work not included in GRC forecast, including substation equipment records management improvements, high profile event standby costs, and conversion of substation drawings to 3D.
14	GE	4,161	5,146	(985)	Immaterial variance.
15	HN	200,000	201,033	(1,033)	Immaterial variance.
16	HX	2,363	1,370	993	Increase due to more frequent operating system security patches for SCADA servers, software licensing costs for additional SCADA server installations, and acceleration of planned remote terminal unit (RTU) technology migration.
17	IF	66,200	51,438	14,762	Increase due to updated 5-year rolling average forecast which includes higher costs from 2015 and 2016 (excluding CEMA-eligible costs).
18	IS	1,000	-	1,000	Increase due to streetlight program moved from Customer Care to Electric Operations.
19	JV	7,525	6,182	1,343	Increase due to a higher demand for Design and Work Management efforts, specifically the Enterprise Estimating Solution (EES).
20	KA	38,471	46,458	(7,987)	Decrease primarily due to the postponed start of surge arrester grounding program as result of revised scope of work.
21	KB	14,793	15,712	(919)	Immaterial variance.
22	KC	3,591	4,129	(538)	Decrease due to lower unit costs for network transformer maintenance resulting from maintenance process changes for transformers with pressure sensors installed for real-time monitoring, and combining some transformer maintenance with ongoing capital work.

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TABLE 3-3
ELECTRIC DISTRIBUTION 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
23	OM	11,183	18,776	(7,594)	Decrease primarily due to higher allocation of management cost to capital and balancing accounts based on the revised overhead cost study.
24	OS	7,421	24,432	(17,011)	Decrease primarily due to Business Finance & HR support related to Electric Distribution budgeted in Corporate Services and higher allocation of support costs to capital and balancing accounts based on the revised overhead cost study.
25	AB (Fleet)	32,531	27,279	5,252	Increase due to rentals being fully centralized in Fleet beginning in 2016; a depreciation increase due to incremental vehicle purchases; and replacements of existing units, fuel increase, and escalation for labor and parts.
26	Total	$597,230	$622,442	($25,213)	

MWC Descriptions – Capital

MWC 05 – Tools and Equipment – includes the costs of miscellaneous tools and equipment, ATS tools, and of overdrawn materials. Overdrawn credits arise when material is purchased for a project and goes unused. Normally, the overdrawn material is credited back to the capital order that was initially used to purchase the material. However, if the capital order is closed, the overdrawn material is credited back to an order in MWC 05. 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. ATS tools include the cost of laboratory and test equipment used for field work or in ATS laboratories. This MWC also includes PG&E's forecast for an offset for capital-related productivity improvements.

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 the distribution lines and equipment and 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 distribution circuits to redistribute loading.

MWC 07 – Pole Replacement – includes the replacement of poles, 99 percent of which are wood, to support safety and reliability of the electric distribution system.

MWC 08 – Base Reliability Program – includes replacing obsolete switches; rebuilding and reframing OH distribution lines (including the installation of tree-insulated wire); and performing other reliability and system protection improvement work such as replacing annealed OH conductors. Base reliability work is intended to maintain the current level of electric distribution system reliability.

MWC 09 – Electric Distribution Automation and Protection – covers investments in field automation and protection devices including installing or replacing substation Remote Terminal Units; installing or replacing supervisory control and data acquisition (SCADA) peripherals; installing or replacing automated line equipment; replacing obsolete protection equipment, primarily relays, in distribution substations; replacing automation or protection equipment due to unanticipated failure.

MWC 10 – Electric Work at the Request of Others (WRO) – 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.

MWC 16 – Electric Distribution Customer Connections – includes building new UG and OH primary distribution systems, and the associated secondary systems and services to both residential and non-residential customers.

MWC 17 – Electric Distribution Routine Emergency – includes facility replacements in response to OH or UG outages that occur during normal conditions.

MWC 21 – Emergency Preparedness & Response – includes costs to build critical infrastructure required for response to catastrophic emergencies. This includes costs for basecamps, facility upgrades, communications and data infrastructure improvements, and also natural disaster models. Beginning in 2016, this MWC may include an offset for capital-related productivity improvements.

MWC 23 – Implement Real Estate Strategy/Manage Buildings – includes the costs for new buildings, yards, and Applied Technology Services (ATS), including the purchase of land and the purchase and installation of furniture, office equipment, and IT Infrastructure, ATS labs, as well as the costs to improve building environmental sustainability, to implement workplace strategy, and to optimize the real estate portfolio.

MWC 30 – Electric Distribution Work Requested by Others – Rule 20A – includes the conversion of existing OH electric distribution facilities to underground facilities. A specified project must be in the general public interest and have sufficient work credits to convert the facilities. Beginning in 2017, these costs are included in the one way Rule 20A balancing account authorized by Decision 17-05-013.

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.

MWC 48 – Electric Distribution Replace Substation Equipment – includes all major and minor substation equipment replacements not included in MWC 54 (Transformer Program). Specific sub-programs include:

- Ancillary Substation Equipment Replacement
- Ground Grid Replacement
- Circuit Breaker Replacement Program
- Switch Replacement
- Battery Replacement
- Civil Structure Replacements
- Switchgear Replacement
- Regulator Replacement
- Yard Improvement Replacement
- Diagnostic Installation Program
- Arc Flash Reduction Replacement
- Animal Abatement
- Transformer Bushings

MWC 49 – Targeted Reliability Program – includes OH fuses; UG protective devices; new line reclosers and converting existing reclosers from manual to remote operation (i.e., making them SCADA operable); fault indicators; work to improve service to customers experiencing five or more sustained outages during the year; and expenditures to resolve high-impact reliability issues. 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, repairing or replacing existing equipment, and completing previously identified maintenance tags.

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, mobile transformers, and breakers for emergency response.

MWC 56 – Electric Distribution Underground Asset Replacement – includes the non-emergency related replacement of primary distribution cables (includes tie-cables), primary and secondary Network Cables, Transfer Ground Rocker Arm Main/Transfer Ground Rocker Arm Line (TGRAM/TGRAL) switches, Load Break Oil Rotary (LBOR) switches, and replacement of failed primary distribution cables. Program also includes performing cable rejuvenation (injection) and testing.

MWC 58 – Electric Distribution Substation Safety and Security – includes substation security, 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).

MWC 59 – Electric Distribution Substation Emergency Replacement – 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.

MWC 63 – Electric Operations Control Center Facility – covers ongoing capital improvements and enhancements to the consolidated control centers, the Fresno Dispatch Facility, and technology and systems for these facilities.

MWC 95 – Electric Distribution Major Emergency – includes response work to OH or UG outages when a division OEC has been activated and consistent with PG&E's Major Emergency Balancing Account Criteria Guidance Document. Beginning in 2014, these costs are included in the two way Major Emergency balancing account authorized by Decision 14-08-032.

MWC 2A – Electric Distribution Preventive Maintenance, Overhead – includes replacing deteriorated OH 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 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 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. Work also includes replacing PG&E owned non-decorative High Pressure Sodium Vapor (HPSV) streetlights with Light Emitting Diode (LED) streetlights.

MWC 2B – Electric Distribution Preventive Maintenance, Underground – includes replacing deteriorated UG 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 KB, but includes replacing equipment, rather than repair and maintenance. Typical equipment replacements include corroded transformers, inoperative switches, damaged UG enclosures and other UG 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.

MWC 2C – Electric Distribution Preventive Maintenance, 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 manhole cover replacement program.

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

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ELECTRIC DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 3-4
ELECTRIC DISTRIBUTION 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	05	$5,198	($18,143)	$23,341	Increase due to efficiencies planned in MWC 05 which will be realized in other MWCs.
2	06	66,871	89,337	(22,466)	Decrease due to reduction in new business related work primarily caused by increased rainfall reducing work required for drought-related agricultural pumping loads, and lower load growth projections. Additional decreases are due to reductions in planned overloaded transformer replacements and VVO to fund other higher priority work.
3	07	147,778	86,328	61,450	Increase due to significant increase in volume of planned pole replacements due to inspecting more poles in areas with higher reject rates (Bay Area) sooner than forecast, and 205 pole replacements carried over from 2016.
4	08	34,556	45,091	(10,536)	Decrease due to lower volume of planned overhead conductor replacement to fund increased volume of pole replacement work.
5	09	50,739	48,174	2,565	Increase due to larger volume of planned substation SCADA installations due to resource availability. This was partially offset by prioritizing and rescheduling some planned substation SCADA replacements to future years.
6	10	86,869	76,403	10,465	Increase due to a growth in volume of work mainly driven by government-related jobs.
7	16	353,670	399,720	(46,050)	Decrease due to a reduction in Non-Residential and Plug-in Electric Vehicle work.
8	17	161,764	146,893	14,870	Increase due to planned shift to more emergency equipment replacements (capital) than repairs (expense). Replacement instead of repairs of facilities is anticipated to improve reliability of those facilities going forward.
9	21	2,700	8,022	(5,322)	Decrease due to budget transfers to Corporate Real Estate for upgrades to emergency centers and construction of the alternate emergency operations center.

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ELECTRIC DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 3-4
ELECTRIC DISTRIBUTION 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
10	23	0	5,652	(5,652)	Decrease due to budget transfer to Corporate Real Estate as a result of the Company's new cost model. Going forward, these costs will reside in Corporate Real Estate.
11	30	45,000	57,919	(12,919)	Decrease due to lower volume of identified underground conversion work ready to proceed in 2017 compared to the 2017 GRC adopted amount. The 2017 GRC authorized a new one-way balancing account so unused funds will remain in the balancing accounting for future Rule 20A projects in the 2017 GRC cycle.
12	46	20,254	67,755	(47,501)	Decrease due to reduction in new business drought-related work primarily caused by increased rainfall and lower load growth projections.
13	48	117,181	80,892	36,289	Increase due to more required work than authorized, primarily in switchgear projects (Larkin 12 kV, El Cerrito G 12 kV, San Francisco M 4 kV and 12 kV, and Oakland L 4 kV) and in circuit breaker projects at Redwood City and Lerdo.
14	49	66,496	80,428	(13,932)	Decrease due to planned reductions in targeted reliability and Fault Location, Isolation and Service Restoration (FLISR) circuits, offset by installations of TripSaver reclosers. The overall MWC reductions were necessary to support increased volume of pole replacement work.
15	54	34,533	42,686	(8,153)	Decrease due to less required work than adopted. Specific projects include Sixth Avenue 4 kV unit substation replacement, Potrero Bk relocations and replacement, and Oakland C Bk 1.
16	56	87,575	107,750	(20,174)	Decrease due to lower volume of planned replacement work in critical operating equipment, network cable, and underground oil filled switches in order to prioritize increased volume of pole replacement work.

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ELECTRIC DISTRIBUTION EXPENSE AND CAPITAL INFORMATION

TABLE 3-4
ELECTRIC DISTRIBUTION 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
17	58	2,614	2,315	299	Increase due to a reprioritization of work from physical security projects to seismic upgrades at Vallejo B and Stockton A substations which have slightly higher forecast costs.
18	59	24,866	45,517	(20,651)	Decrease due to a budget offset in substation emergency replacement MWC 59 to account for anticipated schedule changes in substation projects (such as permitting, clearances, and material delivery delays) in MWCs 48 and 54.
19	63	4,266	1,096	3,170	Increase due to emergent FLISR Dashboard Project costs not included in 2017 GRC forecast.
20	95	73,200	56,474	16,726	Increase due to higher major emergency costs from 2015 and 2016 included in the 5-year average amount used to determine the budget.
21	2A	120,633	118,036	2,598	Increase due to higher find and fix rates and lower cancellations of overhead notifications, offset by cost efficiencies in the LED streetlight program and a decrease in planned historical streetlight spend due to a pending decision from the SF Historical Society regarding fiberglass versus cast iron.
22	2B	45,342	43,748	1,594	Increase due to higher unit costs for underground replacements and enclosures, which require more civil work.
23	2C	19,195	20,130	(935)	Immaterial variance.
24	2F	25,543	50,126	(24,583)	Decrease due to reprioritization of technology capital investments to higher priority areas of the Company; a forecast reduction in the project delivery costs of mobile solutions, and a delay in finalizing the funding strategy for certain technology projects authorized in MWC 2F that will be moving to MWC 63.
25	Total	$1,596,843	1,662,351	($65,508)	

SECTION 4
Customer Care
Detailed Variance Explanations

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CUSTOMER CARE EXPENSE AND CAPITAL INFORMATION

TABLE 4-1
CUSTOMER CARE EXPENSE COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Read & Investigate Meters[a]	AR	$15,803	$16,340	($537)
2	Manage Electric Grid Ops[b]	CY	2,792	0	2,792
3	Provide Field Services	DD	744	1,119	(375)
4	Manage Customer Inquiries	DK	65,519	75,415	(9,896)
5	Develop New Revenue	EL	49,964	18,781	31,183
6	Perform Electric Meter Maintenance	EY	8,667	12,466	(3,799)
7	Manage Various Customer Care Processes[b]	EZ	44,258	28,393	15,865
8	Retain and Grow Customers	FK	1,011	592	418
9	Manage Energy Efficiency (Non-Balancing Account)[b]	GM	4,905	7,281	(2,377)
10	Perform Gas Meter Maintenance	HY	7,087	7,558	(471)
11	Process Customer Bills	IS	60,357	59,454	903
12	Manage Credit	IT	14,690	15,281	(590)
13	Collect Revenue	IU	20,185	24,033	(3,848)
14	Provide Account Services[b]	IV	17,969	17,169	800
15	Maintain IT Applications & Infrastructure	JV	3,784	5,441	(1,657)
16	Operational Management	OM	14,325	6,401	7,924
17	Operational Support	OS	2,886	9,239	(6,353)
18	Manage Var Bal Acct Processes[a]	IG	0	4,545	(4,545)
19	Misc Expense	AB	(18)	0	(18)
20	Manage Property & Bldgs	EP	67	0	67

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CUSTOMER CARE EXPENSE AND CAPITAL INFORMATION

TABLE 4-1
CUSTOMER CARE EXPENSE COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
21	Manage Service Inquiries	EV	(1,354)	0	(1,354)
22	Fleet Services[(c)]	AB	5,961	5,998	(37)
23	Total		$339,602	$315,507	$24,095

(a) MWC AR records all meter reading costs, including the meter reading costs that were forecasted in MWC IG for the SmartMeter™ Opt Out activities in the 2017 GRC.

(b) In the 2017 GRC forecast, MWCs EZ, GM and IV included labor costs that are now associated with the new Grid Integration and Innovation (GII) group formed in October 2016. The associated GII 2017 budget is now consolidated and resides in MWC CY.

(c) In the old cost model, fleet services expense was embedded in various MWCs. In the new cost model, fleet services expense is centralized as shown above.

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CUSTOMER CARE EXPENSE AND CAPITAL INFORMATION

TABLE 4-2
CUSTOMER CARE CAPITAL COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	CFS Tools Capital[(a)]	05	$2,728	$2,756	($28)
2	Office Equipment	21	13,406	7,488	5,918
3	Electric Metering Capital[(b)]	25	53,988	46,726	7,262
4	Gas Metering Capital	74	70,579	84,701	(14,122)
5	Build IT Applications & Infrastructure	2F	10,803	41,296	(30,493)
6	IT – Desktop Computers[(a)]	01	0	528	(528)
7	SmartMeter™ Opt Out[(b)]	3J	0	391	(391)
8	Total		$151,504	$183,886	($32,382)

(a) MWC 01 is added in Customer Care to record IT mobile laptop costs for field technicians that in the 2017 GRC were forecasted in MWC 05. MWC 05 is used to record tools and equipment costs.

(b) MWC 25 is used to record all electric metering capital costs, including electric metering capital costs that were forecasted in MWC 3J in the 2017 GRC for the SmartMeter™ Opt Out activities.

MWC Descriptions – Expense

MWC AR – Perform Meter Reading – covers all meter reading activities, including meter reads of traditional meters and interval meters by field personnel and the communication costs associated with reading interval meters that are not converted to use SmartMeter™ technology.

MWC CY – Manage Electric Grid Ops – includes costs associated with the Grid Integration and Innovation Team, which supports many functional areas. The primary work functions involve collaboration on electric strategy, distributed energy resources, forecasting and analytics, maximizing use of the grid, and facilitating learning from pilots. The team also works on strategy and policy development, external engagement, and modeling to inform decisions regarding future grid investments. Fundamentally the team designs, tests, and integrates innovation solutions to further a sustainable future grid.

MWC DD – Provide Field Services – covers Customer Care's portion of customer-generated field service activities, specifically electric start/stop service requests and other customer-generated field services requests.

MWC DK – Manage Customer Inquiries – includes expenses incurred in operating the Company's five Contact Centers which handle approximately 18 million calls per year, with approximately 8 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.

MWC EL – Develop New Revenue – covers work in support of the New Revenue Development team on streetlight light emitting diode (LED) turnkey work, wireless telecomm and fiber optics attachments on PG&E assets, and various other services based on secondary use of PG&E assets.

MWC EV – Manage Service Inquiries – Costs associated before a request for service is submitted by the customer or approved by PG&E, including service planning (e.g., tariff information), land (e.g., title-searching) and estimating/ engineering (cost-only) services to provide information in response to New Business and WRO inquiries. This applies to gas and electric extensions and services, relocations, removals, etc., in advance of applications, project deposits, or other action that indicates that the project will proceed.

MWC EY – Perform Electric Meter Maintenance – covers all electric meter maintenance activities that do not result in new meter exchanges, including electric meter tests, meter communication trouble-shooting, and meter repairs.

MWC EZ – Manage Various Customer 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; meter data collection associated with load research activities; and tariff, risk, compliance, and privacy support.

MWC FK – Retain and Grow Customers – covers responding to economic development inquiries; providing detailed analyses of service options desired by customers; and providing detailed explanations of special rate components. (MWC FK also includes "below the line" activities related to public power and Community Choice Aggregation issues. Below-the-line costs are not included in this report.)

MWC GM – Manage Energy Efficiency (Non-Balancing Account) – covers required safety and compliance work associated with Low Income Energy Efficiency direct installation measures, including Natural Gas Appliance Testing (NGAT) tests which measure levels of carbon monoxide after weatherization of homes of low-income customers. This MWC also covers support required for 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.

MWC HY – Perform Gas Meter Maintenance – 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.

MWC IG – Manage Various Balancing Account Processes – covers expenses pertaining to SmartMeter™ Opt Out, including expenses related to manual meter reading, billing, customer notifications, program administration, regulatory reporting, and related activities.

MWC IS – Process Customer Bills – 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/investigating situation of metered commodity usage with no customer service agreement (e.g., broken lock).

MWC IT – Manage Credit – covers expenses incurred to perform credit risk management for retail customers; delinquent account follow up 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.

MWC IU – Collect Revenue – covers expenses incurred to process energy payments received through the US mail and in Local Offices, as well as vendor transaction fees for on-line energy payments. MWC IU also includes expenses to manage and resolve customer payment inquiries, managing cash refunds; investigating and settling all customer energy theft allegations.

MWC IV – Provide Account Services – covers the cost 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 reliability and outage information, coordinating planned outages, providing retail interconnection information, and responding to customer needs of Energy Service Providers (ESP) and Core Transport Agents (CTA).

MWC JV – Maintain Applications and Infrastructure – includes costs for ongoing maintenance, operations and repair for PG&E's information technology applications, systems and infrastructure.

MWC OM – Operational Management – MWC OM includes labor and employee related costs to provide supervision and management support. MWC OM also includes costs incurred by the administrative staff working for the supervisors and managers.

MWC OS – Operational Support – MWC OS includes labor and employee related costs to provide services and support that are unrelated to supervision and management.

New MWC Descriptions – Expense

MWC AB – Support – Cost associated with work considered administrative and general in nature (i.e., benefiting the entire corporation and not just one functional area). Examples include Annual Meeting expenses and fleet.

MWC EP – Manage Property and Buildings – Includes costs to operate, maintain, and repair PG&E's facilities and shared conference center space.

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TABLE 4-3
CUSTOMER CARE 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	AR	$15,803	$16,340	($537)	Decrease due to rise in SmartMeter™ installations resulting in less manual meter reads than forecast.
2	CY	2,792	0	2,792	Increase reflects certain customer functions that were originally forecast in MWCs EZ, GM, IV and OM, which are now being managed as part of the Grid Integration and Innovation group outside of Customer Care.
3	DD	744	1,119	(375)	Decrease due to expected greater use of SmartMeter™ data to remotely perform start and stop service rather than performing in-person field visits.
4	DK	65,519	75,415	(9,896)	Decrease reflects: (1) funding for general support, cash receiving activities, and answering billing inquiries originally forecasted in MWC DK, but now budgeted in MWC EZ; and (2) reprioritization of Contact Centers' activities for higher priority work across the Company.
5	EL	49,964	18,781	31,183	Increase reflects more work than originally planned in the New Products Category.
6	EY	8,667	12,466	(3,799)	Decrease reflects a lower amount of electric meter maintenance work (expense) and a higher volume of meter exchanges (capital), which resulted in a lower amount of expense cost.
7	EZ	44,258	28,393	15,865	Increase reflects: (1) funding for general support, cash receiving activities, and answering billing inquiries originally forecasted in MWC DK, but now budgeted in MWC EZ; (2) increased Dynamic Pricing rate education and outreach; and (3) additional IT related costs for Meter Data Management Replatform initiative.
8	FK	1,011	592	418	Increase reflects additional economic development work.
9	GM	4,905	7,281	(2,377)	Decrease due to lower number of Natural Gas Appliance Testing inspections than forecast.

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TABLE 4-3
CUSTOMER CARE 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
10	HY	7,087	7,558	(471)	Immaterial variance.
11	IS	60,357	59,454	903	Immaterial variance.
12	IT	14,690	15,281	(590)	Immaterial variance.
13	IU	20,185	24,033	(3,848)	Decrease reflects funding for general support, cash receiving activities, and answering billing inquiries originally forecasted in MWC IU, but now budgeted in MWC EZ. Decrease is partially offset by an increase in electronic payment contract costs.
14	IV	17,969	17,169	800	Immaterial variance.
15	JV	3,784	5,441	(1,657)	Decrease reflects a lower level of implementation costs for Cybersecurity solutions than adopted.
16	OM	14,325	6,401	7,924	MWCs OM and OS are internally planned within Customer Care as one combined budget because they represent the overhead costs for operational management and support. The net sum of these variances are immaterial.
17	OS	2,886	9,239	(6,353)	MWCs OM and OS are internally planned within Customer Care as one combined budget because they represent the overhead costs for operational management and support. The net sum of these variances are immaterial.
18	IG	0	4,545	(4,545)	Decrease reflects SmartMeter™ Opt Out work originally forecasted in MWC IG and now budgeted primarily in MWC AR.
19	AB	(18)	0	(18)	Decrease due to Revenue Operations general costs originally forecasted in MWC IS but now budgeted in MWC AB.
20	EP	67	0	67	Increase due to Pacific Energy Center costs originally forecasted in MWC EZ but now budgeted in MWC EP.

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CUSTOMER CARE EXPENSE AND CAPITAL INFORMATION

TABLE 4-3
CUSTOMER CARE 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
21	EV	(1,354)	0	(1,354)	Decrease reflects the reimbursable revenues for supervision and management support originally forecasted in MWC OM but now budgeted in MWC EV.
22	AB (Fleet)	5,961	5,998	(37)	Immaterial variance.
23	Total	$339,602	$315,507	$24,095	

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.

MWC 21 – Miscellaneous Capital – includes various capital equipment.

MWC 25 – Electric Metering Capital – includes new electric meters, and field technician labor to install/remove electric meters due to maintenance and new business growth activities.

MWC 74 – Gas Metering Capital – includes new gas meters, new gas modules, and field technician labor to install/remove gas meters and regulators due to maintenance and new business growth activities.

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

MWC 3J – Smart Meter Opt Out – Covers separately funded capital expenditures pertaining to SmartMeter™ Opt Out, including labor and material costs related to electric and gas meter exchanges and gas module removals.

New MWC Descriptions – Capital

MWC 01 – IT Desktop Computers – Includes costs associated with the purchase of mobile laptops used by the field technicians to manage and record work activities.

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CUSTOMER CARE EXPENSE AND CAPITAL INFORMATION

TABLE 4-4
CUSTOMER CARE 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	05	$2,728	$2,756	($28)	Immaterial variance.
2	21	13,406	7,488	5,918	Increase due to gas meter or gas module capital labor and material costs originally forecasted in MWC 74 but now budgeted in MWC 21.
3	25	53,988	46,726	7,262	Increase reflects a: (1) higher volume of electric meter exchanges due to decreased expense budget in MWC EY for electric meter maintenance work; and (2) optimizing the SmartMeter™ communications network coverage
4	74	70,579	84,701	(14,122)	Decrease due to: (1) certain gas meter and gas module costs originally forecasted in MWC 74 but now budgeted in MWC 21; and (2) lower than planned gas meter exchanges work resulting in fewer gas meter units needed.
5	2F	10,803	41,296	(30,493)	Decrease due to: (1) reprioritization of technology capital investments to higher priority areas of the Company; and (2) more efficient delivery of cybersecurity solutions.
6	01	0	528	(528)	Decrease due to IT computer costs originally forecasted in MWC 01 but now budgeted under MWC 05.
7	3J	0	391	(391)	Decrease reflects SmartMeter™ Opt Out work originally forecasted in MWC 3J, but now budgeted in MWC 25.
8	Total	$151,504	$183,886	($32,382)	

SECTION 5
Nuclear Generation
Detailed Variance Explanations

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 5-1
NUCLEAR GENERATION 2017 EXPENSE PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Support	AB	$19,289	$19,656	($366)
2	Manage Environmental Operations	AK	2,559	2,733	(174)
3	Manage DCPP Business	BP	19,847	10,913	8,934
4	DCPP Loss Prevention	BQ	45,860	37,299	8,562
5	Operate DCPP Plant[(a)]	BR	77,006	70,002	7,004
6	Maintain DCPP Plant Assets	BS	111,146	112,192	(1,047)
7	Enhance DCPP Personnel Performance	BT	16,431	16,848	(417)
8	Maintain DCPP Plant Configuration	BV	41,212	39,364	1,848
9	Manage Waste Disposal & Transportation[(a)]	CR	0	105	(105)
10	Provide Nuclear Support	EO	110	172	(62)
11	Manage Various Balancing Acct Processes	IG	19,900	9,165	10,735
12	Maintain IT Apps & Infra	JV	658	2,045	(1,387)
13	Operational Management	OM	8,366	10,397	(2,030)
14	Operational Support	OS	18,579	22,371	(3,792)
15	Fleet Services[(b)]	AB	2,595	1,691	904
16	Total		$383,558	$354,952	$28,606

(a) In the 2017 GRC, MWC CR included costs associated with the management of waste disposal and transportation. The associated 2017 budget now resides in MWC BR. These costs have been consolidated in MWC BR for more efficient cost tracking and reporting.

(b) In the old cost model, fleet services expense was embedded in various MWCs. In the new cost model, fleet services expense is centralized as shown above.

PACIFIC GAS AND ELECTRIC COMPANY
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NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 5-2
NUCLEAR GENERATION 2017 CAPITAL PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Office Furniture and Equipment	03	$159	$243	($84)
2	Fleet/Auto Equipment	04	0	881	(881)
3	Tools and Equipment	05	1,160	1,402	(242)
4	DCPP Capital Projects	20	162,281	147,340	14,941
5	Build IT Applications & Infrastructure	2F	5,569	14,318	(8,749)
6	Nuclear Safety and Security	3I	$33,900	$13,891	$20,009
7	Total		$203,069	$178,075	$24,994

MWC Descriptions – Expense

MWC AB – Support – includes miscellaneous support costs such as fleet services costs from both within and outside of Nuclear Generation.

MWC AK – Manage Environmental Operations – includes managing the environmental protection programs mandated by federal, state, and local regulations.

MWC BP – Manage DCPP Business – includes all activities associated with representing the Company and providing technical input to committees, owners groups, industry, professional and trade associations that support electric utilities. MWC BP also includes dues to the Institute of Nuclear Power Operators, Nuclear Energy Institute, Strategic Teaming and Resource Sharing, and Diablo Canyon Independent Safety Committee. MWC BP also includes land management activities. In addition, planned emergent work funding for the entire Nuclear Generation organization are captured in MWC BP.

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.

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.

MWC BS – Maintain DCPP Plant Assets – includes all preventative and corrective maintenance activities for systems, structures, and components at the plant.

MWC BT – Enhance DCPP Personnel Performance – includes all training programs for license and non-license operator, maintenance, engineering, and all general employee training development and delivery.

MWC BU – Procure DCPP Materials & Services – includes cost for under/over clearing of material burden.

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.

MWC CR – Manage Waste Disposal and Transportation – includes cost for disposal and transportation of site hazardous waste.

MWC EO – Provide Nuclear Support – includes cost for plant support provided by PG&E's Corporate Support organizations such as security and communications.

MWC IG – Manage Balancing Account Processes – includes costs subject to the 2-way balancing account established for Nuclear Safety and Security regulatory-mandated projects.

MWC JV – Maintain Applications and Infrastructure – includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems 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.

MWC OS – Operational Support – includes labor- and employee-related costs to provide services and support that are unrelated to supervision and management.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 5-3
NUCLEAR GENERATION 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	AB	$19,289	$19,656	($366)	Immaterial variance.
2	AK	2,559	2,733	(174)	Immaterial variance.
3	BP	19,847	10,913	8,934	Increase due to allowance for emergent work, license renewal suspension project, transfer of medical facility costs from Shared Services and higher facility maintenance costs.
4	BQ	45,860	37,299	8,562	Increase due to reclassification of security access cost from MWC OS to MWC BQ and higher plant security costs.
5	BR	77,006	70,002	7,004	Increase due to fees for once through cooling, higher plant chemicals, extended outage costs, and hazardous waste disposal cost moving from MWC CR to MWC BR.
6	BS	111,146	112,192	(1,047)	Decrease due to 2016 pull forward of turbine maintenance costs from 2017. This is partially offset by extended outage costs.
7	BT	16,431	16,848	(417)	Immaterial variance.
8	BV	41,212	39,364	1,848	Increase due to increased inspections of control rod guide cards and reactor vessel cold leg welds.
9	CR	0	105	(105)	Decrease due to hazardous waste disposal cost moving to MWC BR.
10	EO	110	172	(62)	Decrease due to lower budgeted costs in support of external communications.
11	IG	19,900	9,165	10,735	Increase due to additional Nuclear Regulatory Commission (NRC) regulatory requirements to implement cyber security project.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 5-3
NUCLEAR GENERATION 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
12	JV	658	2,045	(1,387)	Decrease due to rescheduling infrastructure upgrades and replacements for radio, telephone and wireless systems; and a decrease in planned scope for application upgrades and improvement efforts, i.e., SAP Work Management.
13	OM	8,366	10,397	(2,030)	Decrease primarily due to higher allocation of management costs to capital and balancing accounts based on the revised overhead cost study.
14	OS	18,579	22,371	(3,792)	Decrease due to reclassification of security access costs to MWC BQ and higher allocation of management cost to capital and balancing accounts based on the revised overhead cost study.
15	AB (Fleet)	2,595	1,691	904	Increase in budget due to the inclusion of the following components in the budget: rentals being fully centralized in Fleet beginning in 2016, depreciation increase due to incremental vehicle purchases and replacements of existing units, and fuel cost increase.
16	Total	$383,558	$354,952	$28,606	

MWC Descriptions – Capital

MWC 03 – Office Furniture and Equipment – includes capital costs to replace office furniture and equipment.

MWC 04 – Fleet/Auto Equipment – includes replacement of station fleet/auto equipment which has been in use longer than their useful life.

MWC 05 – Tools and Equipment – includes replacement of tools and shop equipment.

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.

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

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.

PACIFIC GAS AND ELECTRIC COMPANY
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NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 5-4
NUCLEAR GENERATION 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	03	$159	$243	($84)	Decrease due to lower budget for furniture.
2	04	0	881	(881)	Decrease due to reclassification of fleet purchasing cost to Shared Services (Fleet/Transportation).
3	05	1,160	1,402	(242)	Decrease due to lower demand for tools.
4	20	162,281	147,340	14,941	Increase due to baffle bolt replacement project.
5	2F	5,569	14,318	(8,749)	Decrease due to reprioritization of technology capital investments to higher priority areas of the Company and rescheduling infrastructure upgrades and replacements for radio, telephone and wireless systems.
6	3I	33,900	13,891	20,009	Increase due to additional regulatory work for National Fire Protection Association (NFPA) 805 fire detection upgrades, cyber security and Fukushima Daiichi response work.
7	Total	$203,069	$178,075	$24,994	

SECTION 6
Power Generation
Detailed Variance Explanations

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
POWER GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 6-1
POWER GENERATION 2017 EXPENSE PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Business/Miscellaneous Expense (Hydro)	AB	$4,425	$2,045	$2,380
2	Manage Environmental Operations (Hydro)	AK	1,120	1,021	99
3	Maintain Hydro Reservoirs, Dams & Waterways (Hydro)	AX	21,976	23,398	(1,422)
4	Habitat and Species Protection (Hydro)	AY	192	153	39
5	Manage Property & Buildings (Hydro)	EP	869	1,368	(499)
6	Implement Environment Projects (Hydro)	ES	524	104	419
7	Manage Var Balancing Account Processes (Hydro)	IG	328	3,443	(3,115)
8	Maintain IT Applications & Infrastructure (Hydro)	JV	1,676	2,337	(661)
9	Operate Hydro Electric Generation (Hydro)	KG	34,609	35,681	(1,072)
10	Maintain Hydro Electric Generating Equipment (Hydro)	KH	21,683	23,402	(1,719)
11	Maintain Hydro Electric Generation Buildings, Grounds & Infrastructure (Hydro)	KI	7,584	10,998	(3,414)
12	Regulatory Compliance Hydro Electric Generation (Hydro)	KJ	35,000	33,205	1,796
13	Operational Management (Hydro)	OM	4,130	4,409	(279)
14	Operational Support (Hydro)	OS	5,227	1,908	3,319
15	Fleet Services (Hydro)	AB	15,008	4,688	10,320
16	Business/Miscellaneous Expense (Fossil)	AB	300	0	300
17	Manage Environmental Operations (Fossil)	AK	2,437	2,663	(226)
18	Maintain IT Applications & Infrastructure (Fossil)	JV	280	0	280
19	Operate Fossil Generation (Fossil)	KK	12,156	13,022	(866)
20	Maintain Fossil Generating Equipment (Fossil)	KL	29,476	33,507	(4,031)
21	Maintain Fossil Generation Buildings, Grounds & Infrastructure (Fossil)	KM	2,718	2,728	(10)
22	Operate Alternative Generation (Fossil)	KQ	741	594	147
23	Maintain Alternative Generation Generating Equipment (Fossil)	KR	2,200	2,818	(618)
24	Maintain Alternative Generation Building, Ground, Infrastructure (Fossil)	KS	583	609	(26)
25	Operational Management (Fossil)	OM	295	310	(15)

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POWER GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 6-1
POWER GENERATION 2017 EXPENSE PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
26	Operational Support (Fossil)	OS	1,066	911	155
27	Total		$206,605	$205,323	$1,281

Note: In the old cost model, fleet services expense was embedded in various MWCs. In the new cost model, fleet services expense is centralized as shown above.

PACIFIC GAS AND ELECTRIC COMPANY
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POWER GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 6-2
POWER GENERATION 2017 CAPITAL PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Tools & Equipment (Hydro)	05	$1,155	$1,052	$103
2	Relicensing Hydro Generation (Hydro)	11	1,524	766	758
3	Implement Environment Projects (Hydro)	12	1,804	4,046	(2,242)
4	Build IT Applications & Infrastructure (Hydro)	2F	12,963	20,025	(7,062)
5	Install/Replace for Hydro Generation Safety & Regulatory Requirements (Hydro)	2L	47,161	38,015	9,146
6	Install/Replace Hydro Generating Equipment (Hydro)	2M	103,072	105,226	(2,154)
7	Install/Replace Reservoirs, Dams & Waterways (Hydro)	2N	70,204	67,117	3,087
8	Install/Replace Hydro Generation Buildings, Grounds & Infrastructure (Hydro)	2P	23,073	12,808	10,265
9	Hydro Elec License & License Conditions (Hydro)	3H	23,421	26,506	(3,085)
10	Office Furniture & Equipment (Fossil)	03	50	50	0
11	Tools & Equipment (Fossil)	05	343	352	(9)
12	Build IT Applications & Infrastructure (Fossil)	2F	2,346	0	2,346
13	Install/Replace Fossil Generating Safety & Regulatory Requirements (Fossil)	2R	1,250	2,977	(1,727)
14	Install/Replace Fossil Generating Equipment (Fossil)	2S	4,069	11,234	(7,165)
15	Install/Replace Fossil Generation Buildings, Grounds & Infrastructure (Fossil)	2T	237	152	85
16	Install/Replace Alternative Generation Safety and Regulation (Fossil)	3A	22	30	(8)
17	Install/Replace Alternative Generation Equipment (Fossil)	3B	236	288	(52)
18	Total		$292,930	$290,645	$2,285

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 such as fleet services costs.

MWC AK – Manage Environmental Operations – includes costs associated with managing environmental operations.

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.

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.

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.

MWC EP – Manage Property & Buildings – includes costs associated with managing land rights and property leases in support of the operation of hydro power plants.

MWC ES – Implement Environmental Projects – includes costs associated with the implementing environmental projects and programs.

MWC IG – Balancing Account – Regulatory Compliance Hydro Electric Generation – includes costs to maintain FERC license compliance to support hydroelectric generation activities for licenses received after January 1, 2014.

MWC JK – Manage Environmental Remediation (Earnings impacted) – includes costs for the cleanup of contaminated sites which are not recovered through the Hazardous Substance Mechanism (HSM), 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.

MWC JV – Maintain Applications and Infrastructure – includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems and infrastructure.

MWC KG – Operate Hydro Electric Generation – includes costs to operate hydroelectric power generating stations and associated facilities.

MWC KH – Maintain Hydro Electric Generating Equipment – includes costs to maintain generating equipment or components to support hydroelectric generation activities.

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.

MWC KJ – Regulatory Compliance Hydro Electric Generation – includes costs to maintain Federal Energy Regulatory Commission (FERC) license compliance to support hydroelectric generation activities for licenses received prior to January 1, 2014.

MWC KK – Operate Fossil Generation – includes costs to operate fossil power generating stations.

MWC KL – Maintain Fossil Generating Equipment – includes costs to maintain fossil power generating station 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.

MWC KQ – Operate Alternative Generation – includes costs to operate alternative generation sites.

MWC KR – Maintain Alternative Generation Generating Equipment – includes costs to maintain alternative power generating station equipment.

MWC KS - Maintain Alternative Generation Building, Ground, Infrastructure – includes costs to maintain photovoltaic and fuel cell generation common facilities.

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.

MWC OS – Operational Support – includes labor and employee related costs to provide services and support that are unrelated to supervision and management.

PACIFIC GAS AND ELECTRIC COMPANY
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POWER GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 6-3
POWER GENERATION 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	AB (Hydro)	$4,425	$2,045	$2,380	Increase due to new pumped storage initiative to look for opportunities to build more pumped storage.
2	AK (Hydro)	1,120	1,021	99	Immaterial variance.
3	AX	21,976	23,398	(1,422)	Decrease due to Fordyce Dam Leakage repair project reclassified as capital instead of expense, Drum tunnel repairs substantially completed in prior year, and Pit 4 Dam paint structural steel rescheduled to 2019. Decreases were partially offset by increases for various emergent dam and water conveyance projects.
4	AY	192	153	39	Increase primarily due to additional costs for Zebra Quagga Prevention Program.
5	EP	869	1,368	(499)	Decrease due to delay in issuance of the renewal of the DeSabla-Centerville, UNFFR, and Poe FERC Licenses. These licenses are expected to necessitate that PG&E hire patrol positions to control land uses and address Lake Almanor encroachment issues. The renewal licenses for UNFFR and Poe are now expected in 2019.
6	ES	524	104	419	Increase due to additional restoration monitoring, mitigation, maintenance, and reporting of 61 acres of disturbed area following the Crane Valley Dam Seismic Retrofit project as required per California Fish and Wildlife permits.
7	IG	328	3,443	(3,115)	Decrease due to delay in issuance of the renewal of the DeSabla-Centerville, UNFFR, and Poe FERC Licenses which has caused license implementation costs including a $2.8 million payment to the US Forest Service to be rescheduled. The renewal licenses for UNFFR and Poe are now expected in 2019.
8	JV (Hydro)	1,676	2,337	(661)	Decrease due to rescheduling of SAP Enhancements and Application Remediation and Upgrade efforts.

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POWER GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 6-3
POWER GENERATION 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
9	KG	34,609	35,681	(1,072)	Decrease primarily due to reduced budget allocated to Operate Generation Facilities. These decreases were partially offset by additional budget allocated to Hydro Waterway Public Safety Initiatives and the Rock Creek Ground Grid Modification Project.
10	KH	21,683	23,402	(1,719)	Decrease due to change of Halsey turbine repairs to capital replacement, cancellation of Chili Bar runner repair project, rescheduling of Potter Valley generator cleaning, and shifting of costs to new MWC OS.
11	KI	7,584	10,998	(3,414)	Decrease primarily due to rescheduling various material condition improvement projects (painting and other building repairs) and reallocating funds to MWCs KJ and OS.
12	KJ	35,000	33,205	1,796	Increase primarily due to Pit 3 Britton Dam bridge repair construction start moved from 2016 into 2017, as well as higher than expected FERC and Department of Safety of Dams fees, increased environmental and facility safety monitoring expenses. These increased expenses were partially offset by rescheduling of the Crane Valley Recreation Settlement Agreement costs and reallocating funds from MWC KI.
13	OM (Hydro)	4,130	4,409	(279)	Immaterial variance.
14	OS (Hydro)	5,227	1,908	3,319	Increase primarily due to funding four new organizational groups: Asset Management, Project & Resource Planning, Hydro Contracts, and Power Generation Safety and reallocating funds from MWC KI.
15	Fleet Services (Hydro)	15,008	4,688	10,320	Increase in budget due to the inclusion of the following components in the budget: rentals being fully centralized in Fleet beginning in 2016, depreciation increase due to incremental vehicle purchases and replacements of existing units, and fuel cost increase.

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POWER GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 6-3
POWER GENERATION 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
16	AB (Fossil)	300	0	300	Increase due to an emergent risk assessment initiative assessing changes in the operating characteristics of fossil generating units.
17	AK (Fossil)	2,437	2,663	(226)	Immaterial variance.
18	JV (Fossil)	280	0	280	Increase due to unforecasted carryover costs for Cybersecurity and Mobility project implementations.
19	KK	12,156	13,022	(866)	Immaterial variance.
20	KL	29,476	33,507	(4,031)	Decrease primarily due to reduced budget allocated to Maintain Fossil Generating Equip.
21	KM	2,718	2,728	(10)	Immaterial variance.
22	KQ	741	594	147	Increase is primarily due to a cost transfer from MWC KR.
23	KR	2,200	2,818	(618)	Decrease is primarily due to a cost transfer to MWC KQ, and reductions in weed abatement and physical security costs.
24	KS	583	609	(26)	Immaterial variance.
25	OM (Fossil)	295	310	(15)	Immaterial variance.
26	OS (Fossil)	1,066	911	155	Increase primarily due to additional support.
27	Total	$206,605	$205,323	$1,281	

MWC Descriptions – Capital

MWC 01 – IT Computing Equipment –includes capital costs to replace computing equipment.

MWC 03 – Office Furniture & Equipment –includes capital costs to replace office furniture and equipment.

MWC 05 – Tools and 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.

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.

MWC 12 – Implement Environmental Projects – includes costs for capital projects to comply with water and air quality regulations and various oil spill prevention projects.

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

MWC 2L – Install/Replace for Hydro Electric Generation Safety & Reg Requirements – includes capital costs primarily related to employee or public safety and regulatory requirements that are not connected with relicensing for hydroelectric generation.

MWC 2M – Install/Replace Hydro Electric Generating Equipment – includes capital costs to install/replace generating equipment or components to support hydroelectric generation activities.

MWC 2N – Install/Replace Reservoirs, Dams & Waterways – includes capital costs to support the operation of reservoirs, dams and waterways.

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.

MWC 2R – Install/Replace Fossil Generating Safety & Regulatory Requirements – includes capital costs primarily related to employee safety or regulatory requirements for fossil generation.

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.

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.

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.

MWC 3B – Install/Replace Alternative Generation Equipment – includes capital costs associated with the installation of solar photovoltaic generation equipment.

MWC 3C – Install/Replace Alternative Generation Buildings, Grounds & Infrastructure – includes capital costs to install or replace new buildings, grounds and infrastructure on the plant site to support Alternative Generation activities.

MWC 3H – Balancing Account – Relicensing Hydro Electric Generation – includes costs for relicensing existing FERC licenses; obtaining major license amendments; surrendering licenses for facilities that are no longer economic; physical decommissioning; 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.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
POWER GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 6-4
POWER GENERATION 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	05 (Hydro)	$1,155	$1,052	$103	Immaterial variance.
2	11	1,524	766	758	Increase due to increase in scope and cost for the Battle Creek NFSL Additional Design Improvements project.
3	12	1,804	4,046	(2,242)	Decrease due to reprioritization to support incremental Haas Unit 2 governor work.
4	2F (Hydro)	12,963	20,025	(7,062)	Decrease due to reprioritization of technology capital investments to higher priority areas of the Company and a forecast reduction in the project delivery costs of mobile and cybersecurity solutions.
5	2L	47,161	38,015	9,146	Increase primarily due to delay from 2016 to 2017 in the Division of Safety of Dams' review on the Pit 6 Replace Spillway Apron project, need for vendor redesign of trashrack at Coleman, permitting delays on the DeSabla Butte 3/6A Spillway Improvements project, and certification issues on California Independent System Operator (CAISO) replacement meters.
6	2M	103,072	105,226	(2,154)	Decrease due to higher capital efficiency and delay in material delivery associated with the Pit 5 transformer replacement project.
7	2N	70,204	67,117	3,087	Increase due to permit delays, weather delays, alternative analysis that resulted in re-scheduling of work into 2017.
8	2P	23,073	12,808	10,265	Increase due to additional road repair work and Helms and Caribou powerhouse crane upgrade projects in budget.
9	3H	23,421	26,506	(3,085)	Decrease due to decision to not renew the DeSabla Centerville license and the forecast projects associated with the license renewal.
10	03 (Fossil)	50	50	0	Immaterial variance.
11	05 (Fossil)	343	352	(9)	Immaterial variance.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
POWER GENERATION EXPENSE AND CAPITAL INFORMATION

TABLE 6-4
POWER GENERATION 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
12	2F (Fossil)	2,346	0	2,346	Increase due to unplanned carryover costs from 2016 for Cybersecurity and Mobility project implementations.
13	2R	1,250	2,977	(1,727)	Decrease due to rescheduling of the Op Flex Balance / Advantage Project from 2017 to 2018.
14	2S	4,069	11,234	(7,165)	Decrease due to rescheduling of major equipment projects at Colusa Generating Station: generator breakers, capital emergency spares, Unit 2 NOx Catalyst, ABB control system, new water treatment tanks for operations flexibility.
15	2T	237	152	85	Increase due to acceleration of warehouse upgrades from 2018 to 2017.
16	3A	22	30	(8)	Decrease due to lower costs for Inverter Enclosures at multiple Solar Stations.
17	3B	236	288	(52)	Decrease due to lower Solar Module replacements, and lower costs on the Monitoring and Control System.
18	Total	$292,930	$290,645	$2,285	

SECTION 7
Energy Policy & Procurement
Detailed Variance Explanations

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
ENERGY POLICY & PROCUREMENT EXPENSE AND CAPITAL INFORMATION

TABLE 7-1
ENERGY POLICY & PROCUREMENT 2017 EXPENSE PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Support	AB	$1,222	$1,577	($355)
2	Maintain Buildings	BI	48	56	(9)
3	Acquire and Manage Electric Supply	CT	31,077	39,218	(8,141)
4	Gas Procurement	CV	2,853	3,239	(385)
5	Manage Electric Grid Operations[(a)]	CY	5,465	0	5,465
6	Maintain IT Applications & Infrastructure	JV	1,101	2,824	(1,722)
7	Total		$41,766	$46,914	($5,147)

(a) In the 2017 GRC MWC CT included labor costs that are now associated with the new Grid Integration and Innovation group formed in October 2016. The associated 2017 budget now resides in MWC CY.

TABLE 7-2
ENERGY POLICY & PROCUREMENT 2017 CAPITAL PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Build IT Applications & Infrastructure	2F	$8,920	$18,955	($10,035)
2	Total		$8,920	$18,955	($10,035)

MWC Descriptions – Expense

MWC AB – Support – represents the office of the Senior Vice President (SVP) of Energy Policy & Procurement, along with the administrative support functions for the Chief of Staff, business planning, budgeting, and financial and operational reporting.

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.

MWC CT – Acquire and Manage Electric Supply – includes resources necessary for electric procurement operations for bundled electric supply, including electric generation-related gas procurement. These functions include Energy Policy, Planning and Analysis, Energy Supply Management, Renewable Energy, Energy Contract Management and Settlements, and Energy Compliance and Reporting.

MWC CV – Gas Procurement – includes resources necessary for gas procurement operations to supply gas for PG&E's core customers.

MWC CY – Manage Electric Grid Ops – includes costs associated with the Grid Integration and Innovation Team, which supports many functional areas. The primary work functions involve collaboration on electric strategy, distributed energy resources, forecasting and analytics, maximizing use of the grid, and facilitating learning from pilots. The team also works on strategy and policy development, external engagement, and modeling to inform decisions regarding future grid investments. Fundamentally the team designs, tests, and integrates innovative solutions to further a sustainable future grid.

MWC JV – Maintain Applications and Infrastructure – includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems and infrastructure.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
ENERGY POLICY & PROCUREMENT EXPENSE AND CAPITAL INFORMATION

TABLE 7-3
ENERGY POLICY & PROCUREMENT 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	AB	$1,222	$1,577	($355)	Decrease due to lower supervision and management costs.
2	BI	48	56	(9)	Decrease due to lower building maintenance costs.
3	CT	31,077	39,218	(8,141)	Decrease due to labor costs for the new Grid Integration & Innovation group being requested in MWC CT but recorded in MWC CY, higher vacancies, and lower than adopted Competitive Solicitations project spend.
4	CV	2,853	3,239	(385)	Decrease due to lower trading and supervision costs.
5	CY	5,465	0	5,465	Increase due to higher labor as Grid Integration & Innovation was a new group formed in October 2016. Costs of the employees were originally requested in MWC CT.
6	JV	1,101	2,824	(1,722)	Decrease due to lower implementation costs for Cybersecurity solutions and rescheduled efforts on Power Scheduling and Analytics Compliance Upgrades.
7	Total	$41,766	$46,914	($5,147)	

MWC Descriptions – Capital

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

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
ENERGY POLICY & PROCUREMENT EXPENSE AND CAPITAL INFORMATION

TABLE 7-4
ENERGY POLICY & PROCUREMENT 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	2F	$8,920	$18,955	($10,035)	Decrease due to reprioritization of technology capital investments to higher priority areas of the Company; a forecast reduction in Market Initiative Implementation solutions to account for CAISO decision delays; lower implementation costs for Cybersecurity solutions; and rescheduling of several efforts for application system integrations and upgrades.
2	Total	$8,920	$18,955	($10,035)	

SECTION 8
Information Technology
Detailed Variance Explanations

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION

TABLE 8-1
INFORMATION TECHNOLOGY 2017 EXPENSE PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	Program	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Baseline	JV[(a)]	$261,473	$323,758	($62,285)
2	Lifecycle	JV	3,131	7,642	(4,511)
3	Continuous Improvement	JV	0	1,237	(1,237)
4	Technology Reliability Projects	JV[(b)]	12,124	6,126	5,998
5	Operational Management	OM	2,995	4,287	(1,292)
6	Operational Support	OS	246	0	246
7	Total		$279,969	$343,050	($63,081)
8	Chargeback Allocations to Capital		(38,446)	(48,234)	9,788
9	Total Net of Chargeback Allocation to Capital		$241,522	$294,815	($53,293)

Note:

(a) MWC JV (Baseline) includes total company chargebacks before the allocation to capital. Information Technology's expense net of chargeback allocations are shown on Line 9.

(b) Technology Reliability Projects include IT Tech Projects.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION

TABLE 8-2
INFORMATION TECHNOLOGY 2017 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	Program	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Lifecycle	2F	$37,037	$94,725	($57,688)
2	Continuous Improvement	2F	9,959	2,446	7,514
3	Technology Reliability Projects	2F[(a)]	88,938	107,301	(18,363)
4	Total		$135,934	$204,471	($68,537)

Note:
(a) Technology Reliability Projects include IT Tech Projects.

MWC Description – Expense

MWC JV – Maintain Applications and Infrastructure – includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems and infrastructure.

Under both MWC 2F and MWC JV, IT work is further organized by sub-program.

The Baseline sub-program provides for the ongoing operations and maintenance of IT's existing applications systems and infrastructure.

The Lifecycle sub-program represents IT's physical asset and software replacement initiatives required to maintain current operational and reliability performance standards.

The Continuous Improvement sub-program captures projects that are specifically targeted to improve the efficiency or streamline the delivery of IT functions or services.

The Technology Reliability Project sub-program accounts for projects that originate within IT and are executed to address: (1) enabling new technology deployments across PG&E's lines of business (enterprise-wide projects); (2) manage reliability or security concerns with obsolete technology; or (3) fulfill capacity needs arising from growth in PG&E's new technology environment.

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

MWC OS – Operational Support – MWC OS includes labor- and employee-related costs to provide services and support that are unrelated to supervision and management.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION

TABLE 8-3
INFORMATION TECHNOLOGY 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	Program	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	Baseline	JV	$261,473	$323,758	($62,285)	Decrease primarily due to: (1) the implementation of the Managed Service program and other affordability initiatives in Business Technology which reduced the expected cost to deliver services; (2) efficiencies gained in Information and Operations vendor contract negotiations; and (3) centralization and ongoing consolidation of End User Services costs (formerly known as device fee chargebacks) due to the implementation of a new cost model allocation methodology.
2	Lifecycle	JV	3,131	7,642	(4,511)	Decrease primarily due to less expense work than originally forecast for Information Management and User Technologies project solutions. This decrease is partially offset by an increase in cybersecurity tool investments.
3	Continuous Improvement	JV	0	1,237	(1,237)	Decrease due to a greater focus on the capital investments in MWC 2F related to the Continuous Improvement Program.
4	Technology Reliability Projects	JV	12,124	6,126	5,998	Increase due to User Technology and Information Management solutions that rely on vendor-based services for data consolidation, collaboration and big data analytics.

PACIFIC GAS AND ELECTRIC COMPANY
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INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION

TABLE 8-3
INFORMATION TECHNOLOGY 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	Program	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
5	Operational Management	OM	2,995	4,287	(1,292)	Decrease primarily due to a reduction in administrative and technical support as a part of the affordability strategy.
6	Operational Support	OS	246	0	246	Increase due to delays in finalizing the reorganization of the infrastructure planning teams.
7	Total		$279,969	$343,050	($63,081)	

MWC Description – Capital

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

Under both MWC 2F and MWC JV, IT work is further organized by sub-program.

The Baseline sub-program provides for the ongoing operations and maintenance of IT's existing applications systems and infrastructure.

The Lifecycle sub-program represents IT's physical asset and software replacement initiatives required to maintain current operational and reliability performance standards.

The Continuous Improvement sub-program captures projects that are specifically targeted to improve the efficiency or streamline the delivery of IT functions or services.

The Technology Reliability Project sub-program accounts for projects that originate within IT and are executed to address: (1) enabling new technology deployments across PG&E's lines of business (enterprise-wide projects); (2) manage reliability or security concerns with obsolete technology; or (3) fulfill capacity needs arising from growth in PG&E's new technology environment.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION

TABLE 8-4
INFORMATION TECHNOLOGY 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	Program	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	Lifecycle	2F	$37,037	$94,725	($57,688)	Decrease due to reprioritization of technology capital investments to higher priority areas of the Company and rescheduling of asset replacements planned for the Network, Data Center and User Technology asset families pending further asset optimization studies.
2	Continuous Improvement	2F	9,959	2,446	7,514	Increase due to greater focus on building better tools to improve the tracking, monitoring and response time of our assets as well as adding better functionality and capability to asset support systems.
3	Technology Reliability Projects	2F	88,938	107,301	(18,363)	Decrease due to reprioritization of technology capital investments to higher priority areas of the Company and resequencing longer term investments in Network and Data Center system improvements that do not directly impact safety or reliability.
4	Total		$135,934	$204,471	($68,537)	

SECTION 9
Shared Services
Detailed Variance Explanations

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
SHARED SERVICES EXPENSE AND CAPITAL INFORMATION

TABLE 9-1
SHARED SERVICES 2017 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Support	AB	$41,013[(a)]	$22,741	$18,272
2	Manage Environmental Operations	AK	8,838	8,217	621
3	Habitat and Species Protection	AY	153	242	(89)
4	Maintain Buildings	BI	8,040	18,285	(10,245)
5	Manage DCPP Business	BP	6,039	3,206	2,833
6	Manage Waste Disposal & Transportation	CR	2,855	2,570	285
7	Manage Property & Buildings	EP	115,151[(a)]	126,235	(11,085)
8	Implement Environmental Projects	ES	700	1,255	(555)
9	Special A&G/Other Costs-Budget Department Safety Engineering & OSHA Compliance	FA/FL	17,185	27,101	(9,916)
10	Manage Land Services	JE	4,608	3,754	854
11	Implement Real Estate Strategy	JH	6,674	5,422	1,252
12	Manage Environmental Remediation-Earnings	JK	3,351	4,779	(1,428)
13	Procure Materials & Services	JL	12,409	20,230	(7,821)
14	Maintain IT Applications & Infrastructure	JV	7,814	15,276	(7,462)
15	Provide Human Resource Services	KX	6,250	0	6,250
16	Operational Management	OM	1,487	(333)	1,820

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
SHARED SERVICES EXPENSE AND CAPITAL INFORMATION

TABLE 9-1
SHARED SERVICES 2017 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
17	Operational Support	OS	15,330	8,540	6,790
18	Provide Regulation Svcs	KY	1,357	0	1,357
19	Total		$259,252	$267,520	($8,267)
20	Chargeback Allocations to Capital		($64,638)	($68,757)	$4,119
21	Total Net of Chargeback Allocations to Capital		$194,614	$198,762	($4,148)

Note:

(a) MWC AB and MWC EP include total company chargebacks before the allocation to capital. Shared Services' expense net of chargeback allocations are shown on Line 21.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
SHARED SERVICES EXPENSE AND CAPITAL INFORMATION

TABLE 9-2
SHARED SERVICES 2017 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC Description	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)
1	Fleet/Automotive Equipment	04	$85,888	$108,107	($22,289)
2	Tools & Equipment	05	1,625	1,897	(272)
3	Implement Environment Projects	12	8,454	6,074	2,380
4	Purchase/Install – Other Capital	21	5,384	668	4,716
5	Maintain Buildings	22	55,218	48,853	6,365
6	Implement Real Estate Strategy	23	176,491	107,999	68,492
7	EV – Station Infrastructure	28	3,203	3,076	127
8	Build IT Applications & Infrastructure	2F	13,690	13,731	(41)
9	Total		$349,953	$290,476	$59,478

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[1] and miscellaneous support costs.

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).

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.

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.

MWC BP – Manage DCPP Business – includes costs of aircraft services that have been moved from the Nuclear Generation line of business.

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.

MWC ES – Implement Environment Projects – includes costs associated with repairing, replacing, or upgrading equipment to comply with environmental regulations.

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.

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1 Standard Cost Variance is described in the Gas Distribution expense Section 2 of this report.

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.

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.

MWC JK – Manage Environmental Remediation-Earnings – includes costs for the clean-up of contaminated sites which are not recovered through the Hazardous Substance Mechanism (HSM), 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.

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.

MWC JV – Maintain Applications and Infrastructure – includes costs for ongoing maintenance, operations and repair for PG&E's IT applications, systems 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.

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.

New MWC Descriptions – Expense

MWC EP – Manage Property and Buildings – includes costs to operate, maintain, and repair PG&E's facilities and shared conference center space.

MWC KX – Provide Human Resource Services – represents services provided by Human Resources.

MWC KY – Provide Regulations Services – includes costs for regulatory services and support.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-09-001
SHARED SERVICES EXPENSE AND CAPITAL INFORMATION

TABLE 9-3
SHARED SERVICES 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	AB	$41,013	$22,741	$18,272	Increase due to planned spend for expenses due to Safety & Health, Environmental and Supply Chain. Additional increases due to operational costs for ERIM that were planned in MWC JV and moved to MWC AB. Increase was partially offset by the $2.8 million in aviation expense orders that were moved to MWC BP.
2	AK	8,838	8,217	621	Immaterial variance.
3	AY	153	242	(89)	Decrease due to delayed start of the Valley Elderberry Longhorn Beetle program.
4	BI	8,040	18,285	(10,245)	Decrease in building maintenance due to enterprise-wide budget reprioritization to fund higher priority work.
5	BP	6,039	3,206	2,833	Increase due to all Aviation expense orders being moved from MWC AB to MWC BP, to align all aviation expense under one MWC.
6	CR	2,855	2,570	285	Immaterial variance.
7	EP	115,151	126,235	(11,085)	Decrease due to anticipated process efficiencies as well as enterprise-wide budget reductions and service-level reductions within corporate real estate.
8	ES	700	1,255	(555)	Decrease due to lower plans in spill prevention, control and countermeasure needs.
9	FA/FL	17,185	27,101	(9,916)	Decrease due to lower headcount in Safety & Health.
10	JE	4,608	3,754	854	Increase due to additional planned spend for hazardous tree removal.
11	JH	6,674	5,422	1,252	Increase due to unplanned non-structural seismic upgrades at Bishop Ranch.
12	JK	3,351	4,779	(1,428)	Decrease due to less GRC-funded work for Chromium remediation.
13	JL	12,409	20,230	(7,821)	Decrease driven by planned reduction in Sourcing and Materials headcount along with associated employee related costs.

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SHARED SERVICES EXPENSE AND CAPITAL INFORMATION

TABLE 9-3
SHARED SERVICES 2017 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
14	JV	7,814	15,276	(7,462)	Decrease largely due to the reclassification of ERIM operational costs from MWC JV to MWC AB.
15	KX	6,250	0	6,250	Increase due to the Integrated Disability Management Department being moved to Safety & Health from the Human Resources Department.
16	OM	1,487	(333)	1,820	Increase due to the imputed value including a capitalized credit for the work supporting environmental matters, based on the imputed cost allocation methodology.
17	OS	15,330	8,540	6,790	Increase due to an increase in Supply Chain support costs.
18	KY	1,357	0	1,357	Increase due to regulatory support personnel being moved from the Regulatory Affairs Department to Environmental.
19	Total	$259,252	$267,520	($8,267)	

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.

MWC 05 – Tools & Equipment – includes purchase of tools and equipment required to perform various functions, including fleet repairs, warehouse operations, etc.

MWC 12 – Implement Environment Projects – includes costs associated with repairing, replacing, or upgrading equipment and facilities to comply with environmental regulations.

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.

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.

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.

MWC 28 – EV-Station Infrastructure – includes the cost of electric vehicle charging infrastructure for PG&E's owned vehicles.

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

PACIFIC GAS AND ELECTRIC COMPANY
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SHARED SERVICES EXPENSE AND CAPITAL INFORMATION

TABLE 9-4
SHARED SERVICES 2017 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)

Line No.	MWC	2017 Budget: New Cost Model	2017 Imputed Regulatory Values: New Cost Model	2017 Difference Higher/(Lower)	Explanation
1	04	$85,888	$108,107	($22,289)	Decrease due to change of vehicle lifecycle replacement. Vehicle useful lives were extended, requiring less frequent replacement.
2	05	1,625	1,897	(272)	Decrease due to less tool replacement within the Materials Department.
3	12	8,454	6,074	2,380	Increase due to unplanned capital development spend for the Bay Area Habitat Conservation Plan (HCP).
4	21	5,384	668	4,716	Increase due to Corporate Real Estate building improvement capital costs transferred from the Electric Distribution Department.
5	22	55,218	48,853	6,365	Increase due to enterprise-wide budget reprioritization to fund higher priority work in Corporate Real Estate.
6	23	176,491	107,999	68,492	Increase due to Auburn and Lemoore/Coalinga Service Center (SC) optimization projects delayed into 2017. Additionally, there are two new SC projects planned in Fresno and Merced. Remaining increase due to unplanned expansion work at Stockton Regional office.
7	28	3,203	3,076	127	Immaterial variance.
8	2F	13,690	13,731	(41)	Immaterial variance.
9	Total	$349,953	$290,476	$59,478	

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX A

MAJOR WORK CATEGORY (MWC) CONVERSION DOCUMENT

APPENDIX A
MAJOR WORK CATEGORY (MWC) CONVERSION DOCUMENT

The following tables provide mapping for MWCs that have been added since PG&E's presentation of the 2017 GRC.

PACIFIC GAS AND ELECTRIC COMPANY
JULY 2017 GRC BUDGET COMPLIANCE REPORTING DOCUMENT – APPENDIX A
MAJOR WORK CATEGORY (MWC) CONVERSION DOCUMENT

All Lines of Business

Prior MWC (used in the 2017 GRC)	Prior MWC Description	New MWC	New MWC Description	Comment	Period of Update
Supervision and Management Costs Recorded in Multiple MWCs in the 2017 GRC		**OM**	Operational Management	New MWC OM was created to record spending for labor and employee-related costs to provide supervision and management support under PG&E's new cost allocation methodology, which became effective in 2016	March 2016 Budget Report
Support Costs Previously Recorded in Multiple MWCs in the 2017 GRC		**OS**	Operational Support	New MWC OS was created to record spending for labor and employee-related costs to provide services and support that are unrelated to supervision and management under PG&E's new cost allocation methodology, which became effective in 2016	March 2016 Budget Report

Electric Distribution

Prior MWC (used in the 2017 GRC)	Prior MWC Description	New MWC	New MWC Description	Comment	Period of Update
Presented in Customer Care in the 2017 GRC		**IS**	Bill Customers	Streetlight program under MWC IS is transferred to Electric Distribution	July 2017 Budget Report

PACIFIC GAS AND ELECTRIC COMPANY
JULY 2017 GRC BUDGET COMPLIANCE REPORTING DOCUMENT – APPENDIX A
MAJOR WORK CATEGORY (MWC) CONVERSION DOCUMENT
(CONTINUED)

Customer Care					
Prior MWC (used in the 2017 GRC)	**Prior MWC Description**	**New MWC**	**New MWC Description**	**Comment**	**Period of Update**
Presented in MWC IS in the 2017 GRC		**AB**	Misc Expense	Due to an internal cost allocation methodology change some work that was previously recorded in MWC IS was redefined and is now recorded in MWC AB	July 2017 Budget Report
Presented in MWC EZ in the 2017 GRC		**EP**	Manage Property and Buildings	Due to an internal cost allocation methodology change some work that was previously recorded in MWC EZ was redefined and is now recorded in MWC EP	July 2017 Budget Report

Shared Services					
Prior MWC (used in the 2017 GRC)	**Prior MWC Description**	**New MWC**	**New MWC Description**	**Comment**	**Period of Update**
Chargeback costs previously recorded in multiple MWCs in the 2017 GRC		**EP**	Manage Property and Buildings	New MWC EP is created to record spending for costs to operate, maintain, and repair PG&E's facilities and shared conference center space under PG&E's new cost allocation methodology, which became effective in 2016	March 2016 Budget Report
Previously presented in Corporate Services in the 2017 GRC		**KX**	Provide Human Resource Services	Safety-related HR Services activities moved to the Safety and Shared Services organization	March 2017 Budget Report
Previously presented in Corporate Services in the 2017 GRC		**KY**	Provide Regulation Services	Cost of regulatory work within General Counsel moved to the Shared Services Environmental Department	July 2017 Budget Report

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX B

2017 IMPUTED REGULATORY VALUES USING PG&E'S NEW COST ALLOCATION METHODOLOGY

PACIFIC GAS AND ELECTRIC COMPANY
2017 GENERAL RATE CASE APPLICATION 15-11-009
INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION

APPENDIX B
2017 IMPUTED REGULATORY VALUES USING PG&E'S NEW COST ALLOCATION METHODOLOGY

2017 Adopted and Imputed Regulatory Values

The 2017 adopted regulatory values by major work category or corporate services organization are consistent with those reported in Exhibit (PG&E-46).

Effective January 1, 2016, the Company's budget and recorded costs reflect PG&E's new cost allocation methodology. The new cost allocation methodology was described in PG&E's 2017 GRC testimony, as well as in PG&E's March 31, 2016 Budget Compliance Report. In brief, the new cost model uses a "labor only" labor rate which no longer includes support and overhead costs. These costs, which include benefits and payroll taxes, are budgeted and recorded as separate line items for the expense programs. For capital jobs, consistent with the Federal Energy Regulatory Commission Uniform System of Accounts, the new cost allocation methodology allocates the proportionate amount of the support and overhead costs to the capital project work. Accounting for existing balancing account activities are treated similar to capital work to ensure balancing accounts reflect fully allocated costs.

Since the cost forecasts included in the 2017 GRC application were prepared using the old cost allocation methodology, for comparison purposes, PG&E has translated the adopted amounts in Decision 17-05-013 into the new cost allocation methodology, using 2015 recorded conversion factors. The translated adopted amounts are also referred to as imputed regulatory values.

PACIFIC GAS AND ELECTRIC COMPANY
2017 GRC ADOPTED AND IMPUTED REGULATORY IMPUTED VALUES
2017 GRC BU EXPENSE REGULATORY IMPUTED VALUES
(THOUSANDS OF DOLLARS)

Line No.	Exhibit	Chapter	MWC	Major Work Category	Old Cost Model 2017 Adopted (Settlement)	New Cost Model 2017 Imputed	Line No.
Gas Distribution (Exhibit 3)							
1	3	4	EX	EX G Dist Meter Protection	1,467	988	1
2	3	4	FI	FI G Dist Corrective Maint	3,050	1,971	2
3	3	4	JQ	JQ G Dist Integrity Mgt (Non Bal)	34,977	30,102	3
4	3	5	GM	GM Manage Energy Efficiency-NonBA	5,432	3,563	4
5	3	6A	DD	DD Provide Field Service	108,867	48,860	5
6	3	6A	DF	DF G&E T&D Locate and Mark	40,658	23,784	6
7	3	6A	FH	FH G Dist Preventive Maint	19,714	12,425	7
8	3	6A	FI	FI G Dist Corrective Maint	27,529	13,114	8
9	3	6A	HY	HY Change/Maint Used Gas Meters	4,292	1,808	9
10	3	6B	DG	DG G Dist Cathodic Protection	26,000	9,273	10
11	3	6B	FH	FH G Dist Preventive Maint	3,500	2,042	11
12	3	6B	FI	FI G Dist Corrective Maint	28,362	19,546	12
13	3	6C	DE	DE G Dist Leak Survey	40,226	19,498	13
14	3	6C	FI	FI G Dist Corrective Maint	87,846	50,713	14
15	3	7	FG	FG G Dist Operate System	16,992	13,099	15
16	3	7	GG	GG Gas Trans & Dist Sys Modeling	12,311	7,601	16
17	3	8	LK	LK G Dist WRO - Maintenance	6,294	4,253	17
18	3	9	GZ	GZ R&D Non-Balancing Account	1,700	1,472	18
19	3	9	JV	JV Maintain IT Apps & Infra	27,000	26,279	19
20	3	10	AB	AB Misc Expense	4,000	6,262	20
21	3	10	DN	DN Develop & Provide Trainng	4,078	3,915	21
22	3	10	GF	GF Gas Trans & Dist Sys Mapping	6,377	3,853	22
23	3	3	OM	OM Operational Management	N/A	14,294	23
24	3	3	OS	OS Operational Support	N/A	40,552	24
25	3	3	N/A	Fleet Services	N/A	20,883	25
				Total Exhibit (PG&E-3)	**510,673**	**380,151**	

PACIFIC GAS AND ELECTRIC COMPANY
2017 GRC ADOPTED AND IMPUTED REGULATORY IMPUTED VALUES
2017 GRC BU EXPENSE REGULATORY IMPUTED VALUES
(THOUSANDS OF DOLLARS)

Line No.	Exhibit	Chapter	MWC	Major Work Category	Old Cost Model 2017 Adopted (Settlement)	New Cost Model 2017 Imputed	Line No.
Electric Distribution (Exhibit 4)							
26	4	3	AB	AB Emer. Prep. & Response	9,238	7,425	26
27	4	4	BH	BH E Dist Routine Emergency	88,825	51,541	27
28	4	4	IF	IF E Dist Major Emergency	46,419	51,438	28
29	4	5	BA	BA E Dist Operate System	35,553	25,964	29
30	4	5	DD	DD Provide Field Service	31,756	15,979	30
31	4	6	BF	BF E T&D Patrol/Insp	59,980	34,764	31
32	4	6	BK	BK Maint Other Equip	3,090	1,877	32
33	4	6	KA	KA E Dist Maint OH General	73,640	46,458	33
34	4	6	KB	KB E Dist Maint UG	24,361	15,712	34
35	4	6	KC	KC E Dist Maint Network	7,073	4,129	35
36	4	7	HN	HN E Dist Tree Trim Bal Acct	200,031	201,033	36
37	4	8	GA	GA E T&D Maint OH Poles	14,567	13,049	37
38	4	10	HX	HX E T&D Automation & Protection	2,119	1,370	38
39	4	12	GC	GC E Dist Subst O&M	42,135	25372	39
40	4	13	BA	BA E Dist Operate System	83	61	40
41	4	13	JV	JV Maintain IT Apps & Infra	352	343	41
42	4	14	FZ	FZ E Dist Planning & Ops Engineer	21,657	13,919	42
43	4	15	JV	JV Maintain IT Apps & Infra	6,000	5,840	43
44	4	16	GE	GE E Dist Mapping	6,400	5,146	44
45	4	17	EV	EV Manage Service Inquiries	14,641	8,391	45
46	4	17	EW	EW E TD WRO - Maintenance	17,886	12,895	46
47	4	19	AB	AB Misc Expense	1,991	2,011	47
48	4	19	DN	DN Develop & Provide Trainng	7,219	7,239	48
49	4	4	IS	IS Bill Customers	N/A	N/A	49
50	4	4	OM	OM Operational Management	N/A	18,776	50
51	4	4	OS	OS Operational Support	N/A	24,432	51
52	4	4	N/A	Fleet Services	N/A	27,279	52
				Total Exhibit (PG&E-4)	**715,016**	**622,442**	

PACIFIC GAS AND ELECTRIC COMPANY
2017 GRC ADOPTED AND IMPUTED REGULATORY IMPUTED VALUES
2017 GRC BU EXPENSE REGULATORY IMPUTED VALUES
(THOUSANDS OF DOLLARS)

Line No.	Exhibit	Chapter	MWC	Major Work Category	Old Cost Model 2017 Adopted (Settlement)	New Cost Model 2017 Imputed	Line No.
Energy Supply (Exhibit 5)							
53	5	3	AB	AB Misc Expense	20,920	19,656	53
54	5	3	AK	AK Manage Environmental Oper	3,134	2,733	54
55	5	3	BP	BP Manage DCPP Business	4,486	10,913	55
56	5	3	BQ	BQ DCPP Support Services	48,864	37,299	56
57	5	3	BR	BR Operate DCPP Plant	108,310	70,002	57
58	5	3	BS	BS Maintain DCPP Plant Assets	155,625	112,192	58
59	5	3	BT	BT Nuclear Generation Fees	18,142	16,848	59
60	5	3	BV	BV Maintain DCPP Plant Configurtn	51,963	39,364	60
61	5	3	CR	CR Mnge Waste Disp & Transp	105	105	61
62	5	3	EO	EO Provide Nuclear Support	214	172	62
63	5	3	IG	IG Manage Var Bal Acct Processes	9,414	9,165	63
64	5	4	AB	AB Misc Expense	3,004	2,045	64
65	5	4	AK	AK Manage Environmental Oper	1,505	1,021	65
66	5	4	AX	AX Maint Resv	32,054	23,398	66
67	5	4	AY	AY Habitat and Species Protection	203	153	67
68	5	4	EP	EP Manage Property & Bldgs	2,071	1,368	68
69	5	4	ES	ES Implement Environment Projects	111	104	69
70	5	4	IG	IG Manage Var Bal Acct Processes	3,949	3,443	70
71	5	4	KG	KG Operate Hydro Generation	54,782	35,681	71
72	5	4	KH	KH Maint Hydro Generating Equip	35,970	23,402	72
73	5	4	KI	KI Maint Hydro Bldg	14,503	10,998	73
74	5	4	KJ	KJ License Compliance Hydro Gen	38,418	33,205	74
75	5	5	AB	AB Misc Expense	N/A	N/A	75
76	5	5	AK	AK Manage Environmental Oper	3,266	2,663	76
77	5	5	KK	KK Operate Fossil Generation	17,054	13,022	77
78	5	5	KL	KL Maint Fossil Generating Equip	34,891	33,507	78
79	5	5	KM	KM Maint Fossil Bldg	2,805	2,728	79
80	5	5	KQ	KQ Operate Alternative Gen	802	594	80
81	5	5	KR	KR Maint AltGen Generating Equip	3,569	2,818	81
82	5	5	KS	KS Maint AltGen Bldg	670	609	82
83	5	6	AB	AB Misc Expense	2,784	1,577	83
84	5	6	BI	BI Maint Buildings	170	56	84
85	5	6	CT	CT Acq & Manage Elect Supply	53,702	39,218	85
86	5	6	CV	CV Acq & Manage Gas Supply	4,343	3,239	86
87	5	6	CY	CY Manage Electric Grid Ops	N/A	N/A	87
88	5	7	JV	JV Maintain IT Apps & Infra	7,403	7,205	88
89	5	5	OM	OM Operational Management	N/A	15,116	89
90	5	5	OS	OS Operational Support	N/A	25,190	90
91	5	5	N/A	Fleet Services	N/A	6,379	91
				Total Exhibit (PG&E-5)	**739,208**	**607,189**	

PACIFIC GAS AND ELECTRIC COMPANY
2017 GRC ADOPTED AND IMPUTED REGULATORY IMPUTED VALUES
2017 GRC BU EXPENSE REGULATORY IMPUTED VALUES
(THOUSANDS OF DOLLARS)

Line No.	Exhibit	Chapter	MWC	Major Work Category	Old Cost Model 2017 Adopted (Settlement)	New Cost Model 2017 Imputed	Line No.
Customer Care (Exhibit 6)							
92	6	2	EL	EL Develop New Revenue	13,502	18,781	92
93	6	2	EZ	EZ Manage Var Cust Care Processes	6,596	6,114	93
94	6	2	FK	FK Retain & Grow Customers	900	592	94
95	6	2	GM	GM Manage Energy Efficiency-NonBA	2,990	2,830	95
96	6	2	IV	IV Provide Account Services	25,262	17,169	96
97	6	3	EZ	EZ Manage Var Cust Care Processes	12,956	10,742	97
98	6	3	GM	GM Manage Energy Efficiency-NonBA	4,702	4,451	98
99	6	4	DK	DK Manage Customer Inquiries	98,500	67,316	99
100	6	5	DK	DK Manage Customer Inquiries	11,851	8,099	100
101	6	5	EZ	EZ Manage Var Cust Care Processes	826	740	101
102	6	5	IU	IU Collect Revenue	21,077	13,349	102
103	6	6	FK	FK Retain & Grow Customers	0	0	103
104	6	7	AR	AR Read & Investigate Meters	23,208	14,278	104
105	6	7	DD	DD Provide Field Service	2,547	1,119	105
106	6	7	EY	EY Change/Maint Used Elec Meter	22,101	12,466	106
107	6	7	HY	HY Change/Maint Used Gas Meters	14,966	7,558	107
108	6	7	IG	IG Manage Var Bal Acct Processes	7,147	4,338	108
109	6	8	AR	AR Read & Investigate Meters	3,352	2,062	109
110	6	8	EZ	EZ Manage Var Cust Care Processes	3,544	3,175	110
111	6	8	IG	IG Manage Var Bal Acct Processes	305	185	111
112	6	8	IS	IS Bill Customers	69,036	59,454	112
113	6	8	IT	IT Manage Credit	22,491	15,281	113
114	6	8	IU	IU Collect Revenue	16,870	10,684	114
115	6	9	EZ	EZ Manage Var Cust Care Processes	8,509	7,622	115
116	6	9	IG	IG Manage Var Bal Acct Processes	36	22	116
117	6	10	JV	JV Maintain IT Apps & Infra	5,590	5,441	117
118	6	6	AB	AB Misc Expense	N/A	N/A	118
119	6	6	EP	EP Manage Property & Bldgs	N/A	N/A	119
120	6	6	EV	EV Manage Service Inquiries	N/A	N/A	120
121	6	6	CY	CY Manage Electric Grid Ops	N/A	N/A	121
122	6	6	OM	OM Operational Management	N/A	6,401	122
123	6	6	OS	OS Operational Support	N/A	9,239	123
124	6	6	N/A	Fleet Services	N/A	5,998	124
				Total Exhibit (PG&E-6)	**398,865**	**315,507**	

PACIFIC GAS AND ELECTRIC COMPANY
2017 GRC ADOPTED AND IMPUTED REGULATORY IMPUTED VALUES
2017 GRC BU EXPENSE REGULATORY IMPUTED VALUES
(THOUSANDS OF DOLLARS)

Line No.	Exhibit	Chapter	MWC	Major Work Category	Old Cost Model 2017 Adopted (Settlement)	New Cost Model 2017 Imputed	Line No.
Shared Services & IT (Exhibit 7)							
125	7	2	FL	FL Safety Engineering & OSHA Cmpl	26,991	23,914	125
126	7	2	JV	JV Maintain IT Apps & Infra	486	473	126
127	7	3	BP	BP Manage DCPP Business	4,203	3,206	127
128	7	3	JV	JV Maintain IT Apps & Infra	488	475	128
129	7	5	JL	JL Procure Materials & Services	13,976	20,230	129
130	7	5	JV	JV Maintain IT Apps & Infra	3,267	3,180	130
131	7	6	BI	BI Maint Buildings	14,800	18,285	131
132	7	6	JH	JH Implement RealEstate Strategy	6,154	5,422	132
133	7	7	AK	AK Manage Environmental Oper	9,961	8,217	133
134	7	7	AY	AY Habitat and Species Protection	353	242	134
135	7	7	CR	CR Mnge Waste Disp & Transp	2,570	2,570	135
136	7	7	ES	ES Implement Environment Projects	1,344	1,255	136
137	7	7	FA	FA Spc A&G/Oth Csts-Bud Dept	1,715	3,187	137
138	7	7	JE	JE Manage Land Services	5,000	3,754	138
139	7	7	JK	JK Manage Environ Remed (Earning)	7,924	4,779	139
140	7	8A	AB	AB Misc Expense	11,000	10,009	140
141	7	8B	AB	AB Misc Expense	14,343	12,731	141
142	7	8B	JV	JV Maintain IT Apps & Infra	11,455	11,149	142
143	7	9	JV	JV Maintain IT Apps & Infra	286,017	235,921	143
144	7	7	OM	OM Operational Management	N/A	3,954	144
145	7	7	OS	OS Operational Support	N/A	8,540	145
146	7	7	EP	EP Manage Property & Bldgs	N/A	126,235	146
147	7	7	KX	KX Provide Human Resources Svcs	N/A	N/A	147
148	7	7	KY	KY Provide Regulation Scvs	N/A	N/A	148
149	7	7	N/A	IT End User Services	N/A	102,842	149
150	7	7	N/A	Fleet Services	N/A	N/A	150
151	7	7	N/A	IT End User Services Capitalization Credit	N/A	(48,234)	151
152	7	7	N/A	CRE Capitalization Credit	N/A	(68,757)	152
				Total Exhibit (PG&E-7)	**422,046**	**493,578**	

PACIFIC GAS AND ELECTRIC COMPANY
2017 GRC ADOPTED AND IMPUTED REGULATORY IMPUTED VALUES
BUSINESS UNIT CAPITAL EXPENDITURES
(THOUSANDS OF DOLLARS)

Line	Exhibit	Chapter	MWC	MWC Description	Old Cost Model 2017 Adopted (Settlement)	New Cost Model 2017 Imputed	Line
Gas Distribution (Exhibit 3)							
1	3	4	14	G Dist Pipeline Repl Program	409,220	386,855	1
2	3	4	27	Gas Meter Protection-Capital	361	346	2
3	3	4	50	G Dist Reliability General	98,400	93,762	3
4	3	5	31	NGV - Station Infrastructure	4,000	3,967	4
5	3	5	50	G Dist Reliability General	32,665	31,289	5
6	3	5	2K	G Dist Repl/Convert Cust HPR	41,123	40,136	6
7	3	6A	74	Install New Gas Meters	3,526	2,939	7
8	3	6B	50	G Dist Reliability General	21,555	20,333	8
9	3	6C	50	G Dist Reliability General	112,667	115,065	9
10	3	6C	52	G Dist Leak Repl/Emergency	680	751	10
11	3	7	47	G Dist Capacity	46,176	44,129	11
12	3	7	4A	G Dist Control Operations Assets	39,417	39,333	12
13	3	8	29	G Dist Customer Connects	69,200	75,507	13
14	3	8	51	G Dist WRO	64,653	59,308	14
15	3	9	2F	Build IT Apps & Infra	38,120	40,005	15
16	3	10	5	Tools & Equipment	2,725	2,912	16
17	3	10	78	Manage Buildings	16,549	16,440	17
18				**Sub-total Gas Distribution**	**1,001,036**	**973,078**	18
Electric Distribution (Exhibit 4)							
19	4	3	21	Emergency Preparedness and Response	7,950	8,022	19
20	4	4	17	E Dist Routine Emergency	143,053	146,893	20
21	4	4	95	E Dist Major Emergency	53,017	56,474	21
22	4	5	63	E T&D Control System/ Facility	1,060	1,096	22
24	4	6	2A	E Dist Installation/Repl OH General	131,985	118,036	24
25	4	6	2B	E Dist Install/Repl Underground	45,336	43,748	25
26	4	6	2C	E Dist Install/Repl Network	19,186	20,130	26
27	4	8	7	E Dist Install/Repl OH Poles	103,597	86,328	27
28	4	9	8	E Dist Reliability Base	50,114	45,091	28
29	4	9	49	E Dist Reliability Circuit/Zone	83,014	80,428	29
30	4	10	9	E Dist Automation & Protection	43,460	48,174	30
31	4	11	56	E Dist Repl Underground Asset-Generation	107,174	107,750	31
32	4	12	48	E Dist Subst Repl Other Equipment	77,000	80,892	32
33	4	12	54	E Dist Subst Repl Transformer	40,097	42,686	33
34	4	12	58	E Dist Repl Substation Safety	2,271	2,315	34
35	4	12	59	E Dist Substation Emergency Repl	42,400	45,517	35
36	4	13	6	E Dist Line Capacity	94,800	89,337	36
37	4	13	46	E Dist Substation Capacity	65,700	67,755	37
38	4	13	2F	Build IT Apps & Infra	3,300	3,365	38
39	4	15	2F	Build IT Apps & Infra	45,857	46,761	39
41	4	17	10	E Dist Work at the Request of Others General	94,065	76,403	41
42	4	17	16	E Dist Customer Connects	391,000	399,720	42
44	4	18	30	E Dist Work at the Request of Others Rule 20A	60,000	57,919	44
45	4	19	5	Tools & Equipment	(16,874)	(18,143)	45
46	4	19	23	Implement Real Estate Strategy	5,667	5,652	46
47				**Sub-total Elec. Distribution**	**1,694,228**	**1,662,351**	47

PACIFIC GAS AND ELECTRIC COMPANY
2017 GRC ADOPTED AND IMPUTED REGULATORY IMPUTED VALUES
BUSINESS UNIT CAPITAL EXPENDITURES
(THOUSANDS OF DOLLARS)

Line	Exhibit	Chapter	MWC	MWC Description	Old Cost Model 2017 Adopted (Settlement)	New Cost Model 2017 Imputed	Line
Energy Supply (Exhibit 5)							
		Nuclear Generation					
48	5	3	3	Office Furniture & Equipment	232	243	48
49	5	3	4	Fleet / Auto Equip	817	881	49
50	5	3	5	Tools & Equipment	1,158	1,402	50
51	5	3	20	DCPP Capital	144,189	147,340	51
52	5	3	3I	Nuclear Safety and Security	13,304	13,891	52
53	5	N/A	2F	Build IT Apps & Infra	14,050	14,318	53
54				**Sub-total Nuclear Generation**	**173,750**	**178,075**	54
		Hydro Generation					
55	5	4	5	Tools & Equipment	985	1,052	55
56	5	4	11	Relicensing Hydro Gen	734	766	56
57	5	4	12	Implement Environment Projects	3,991	4,046	57
58	5	4	2L	Instl/Rpl for Hydro Safety&Reg	37,727	38,015	58
59	5	4	2M	Instal/Repl Hydro Gneratng Eqp	103,421	105,226	59
60	5	4	2N	Instal/Repl Resv,Dams&Waterway	66,817	67,117	60
61	5	4	2P	Instl/Repl Hydr BldgGrndInfrst	13,004	12,808	61
62	5	4	3H	Hydroelectric Lic & Lic Conditions	26,986	26,506	62
63				**Sub-total Hydro Generation**	**253,667**	**255,537**	63
		Fossil Generation					
64	5	5	3	Office Furniture & Equipment	50	50	64
65	5	5	5	Tools & Equipment	330	352	65
66	5	5	2R	Instl/Rpl for Fosil Safety&Reg	2,600	2,977	66
67	5	5	2S	Instal/Repl Fosil Gneratng Eqp	11,051	11,234	67
68	5	5	2T	Instl/Repl Fosl BldgGrndInfrst	150	152	68
69	5	5	3A	Instl/Rpl for AltGen Safty&Reg	30	30	69
70	5	5	3B	Instal/Repl AltGen GneratngEqp	281	288	70
71	5	5	4C	Instl/Rpl AltGn BldgGrndInfrst	-	0	71
72	5	N/A	2F	Build IT Apps & Infra	19,650	20,025	72
73				**Sub-total Fossil Generation**	**34,143**	**35,108**	73
74				**Sub-total Power Generation**	287,810	290,645	74
		Energy Procurement					
75	5	7	2F	Build IT Apps & Infra	18,600	18,955	75
76	5	7	3M	Install/Repl Var Bal Acct	-		76
77				**Sub-total Energy Procurement**	**18,600**	**18,955**	77
78				**Sub-total Energy Supply**	**480,160**	**487,675**	78

PACIFIC GAS AND ELECTRIC COMPANY
2017 GRC ADOPTED AND IMPUTED REGULATORY IMPUTED VALUES
BUSINESS UNIT CAPITAL EXPENDITURES
(THOUSANDS OF DOLLARS)

Line	Exhibit	Chapter	MWC	MWC Description	Old Cost Model 2017 Adopted (Settlement)	New Cost Model 2017 Imputed	Line
Customer Care (Exhibit 6)							
79	6	2	3M	Install/Repl Var Bal Acct			79
80	6	4	21	Misc Capital	2,000	1,964	80
81	6	4	23	Implement Real Estate Strategy	-	0	81
82	6	5	21	Misc Capital	625	614	82
83	6	7	1	IT - Desktop Computers	500	528	83
84	6	7	5	Tools & Equipment	2,565	2,756	84
85	6	7	25	Install New Electric Meters	53,577	46,726	85
86	6	7	74	Install New Gas Meters	91,428	84,701	86
87	6	7	97	Manage Smart Meter	-	0	87
88	6	7	3J	Smart Meter Opt Out	547	391	88
89	6	8	21	Miscellaneous Capital	5,000	4,910	89
90	6	10	2F	Build IT Apps & Infra	40,522	41,296	90
91				**Sub-total Customer Care**	**196,764**	**183,887**	91
Shared Services & IT[1] (Exhibit 7)							
		Shared Services					
92	7	2	2F	Build IT Apps & Infra	1,726	1,759	92
93	7	3	4	Fleet / Auto Equip	107,837	108,177	93
94	7	3	5	Tools & Equipment	1,009	991	94
95	7	3	28	EV - Station Infrastructure	3,203	3,076	95
96	7	3	2F	Build IT Apps & Infra	100	102	96
97	7	3	21	Miscellaneous Capital	-	0	97
98	7	4	5	Tools & Equipment	622	611	98
99	7	4	21	Misc Capital	492	668	99
100	7	4	2F	Build IT Apps & Infra	-	0	100
101	7	5	2F	Build IT Apps & Infra	8,200	8,357	101
102	7	6	22	Maintain Buildings	50,215	48,853	102
103	7	6	23	Implement Real Estate Strategy	110,000	107,999	103
104	7	6	2F	Build IT Apps & Infra	-	0	104
105	7	7	5	Tools & Equipment	300	295	105
106	7	7	12	Implement Environment Projects	6,207	6,074	106
107	7	7	2F	Build IT Apps & Infra	-	0	107
108	7	8A	2F	Build IT Apps & Infra	500	510	109
109	7	8B	2F	Build IT Apps & Infra	2,948	3,004	110
110				**Sub-total Shared Services**	**293,358**	**290,476**	111
		IT					
111	7	9	2F	Build IT Apps & Infra	200,639	204,470	112
112	7	9	3J	Smart Meter Opt Out	-	0	113
113				**Sub-total IT**	**200,639**	**204,470**	114
114						204,470	115
115				**Sub-total Shared Services & IT**	**493,997**	**494,945**	116

PACIFIC GAS AND ELECTRIC COMPANY
2017 GRC ADOPTED AND IMPUTED REGULATORY IMPUTED VALUES
BUSINESS UNIT CAPITAL EXPENDITURES
(THOUSANDS OF DOLLARS)

					Old Cost Model	New Cost Model	
Line	Exhibit	Chapter	MWC	MWC Description	2017 Adopted (Settlement)	2017 Imputed	Line
Human Resources[1] (Exhibit 8)							
116	8	2	2F	Build IT Apps & Infra	930	948	117
117	8	3	2F	Build IT Apps & Infra	-	0	118
118	8	4	22	Maintain Buildings	150	144	119
119	8	4	2F	Build IT Apps & Infra	-	0	120
120	8	6	5	Tools & Equipment	420	427	121
121	8	6	22	Maintain Buildings	780	746	122
122	8	6	2F	Build IT Apps & Infra	1,325	1,350	123
123				**Sub-total Human Resources**	**3,605**	**3,615**	124
Administrative and General[1] (Exhibit 9)							
124	9	2	2F	Build IT Apps & Infra	3,906	3,981	125
125	9	3	2F	Build IT Apps & Infra	11,850	12,076	126
126	9	4	2F	Build IT Apps & Infra	3,000	3,057	127
127	9	5	2F	Build IT Apps & Infra	-	0	128
128	9	7	2F	Build IT Apps & Infra	14,500	14,777	129
129				**Sub-total Administrative and General**	**33,256**	**33,891**	130
130				**Total GRC (incl. Tot. Co. Comm.)**	**3,903,046**	**3,839,441**	131

NOTE

1 The Imputed regulatory values reflect 100 percent of the costs; however, only 85 percent of the support costs are included in the GRC revenue requirement.

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX C

ENERGY DIVISION COST MODEL PRESENTATION

PG&E's Cost Model Meeting with Energy Division

AppC-1

June 13, 2017
(Updated June 16, 2017)

Topics

- What is a Cost Model
- What has changed
- Benefits of the change
- When did the change happen
- Budget comparisons
- Impacts to the 2017 GRC

What is a Cost Model

PG&E uses the term “cost model” to refer to its cost allocation methodology, which is an approach to gathering and assigning costs to its activities for both internal management accounting and external reporting purposes.

What has changed?

Labor Rates in the Old Cost Model:

- Old Cost Model uses a “Fully-Loaded” labor rate where the hourly cost of labor includes indirect, overhead, and common costs. This approach makes it easy to evaluate the full costs of field and other work

Labor Rates in the New Cost Model:

- New Cost Model uses a “Labor Only” labor rate without indirect, overhead and common costs

How are Labor Rates Used?

- In both cost models, labor rates are used to charge work from operating departments to expense or capital jobs (“orders”)
- In the new cost model, the indirect and overhead costs that are no longer included in the labor rates but instead are: 1) recorded through separate budget line items in the case of expense programs; and 2) allocated to capital jobs and balancing accounts directly rather than through labor rates. This creates better visibility into these indirect and overhead costs.

What has Not changed?

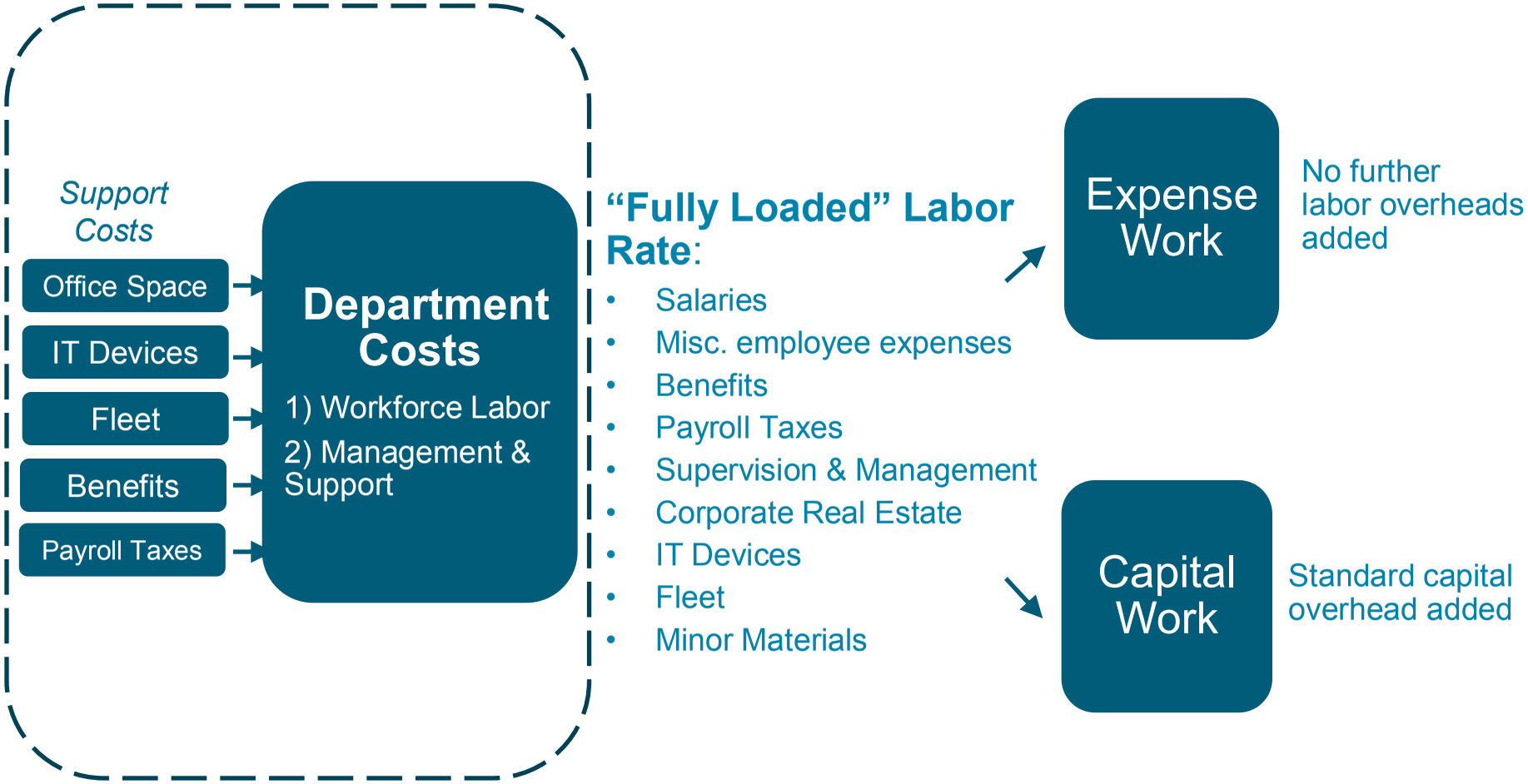
- Overall company costs
- Total employee count
- Organization structure
- Accounting for existing balancing accounts
- Costs directly charged capital MWCs will continue

AppC-5

The Old Cost Model

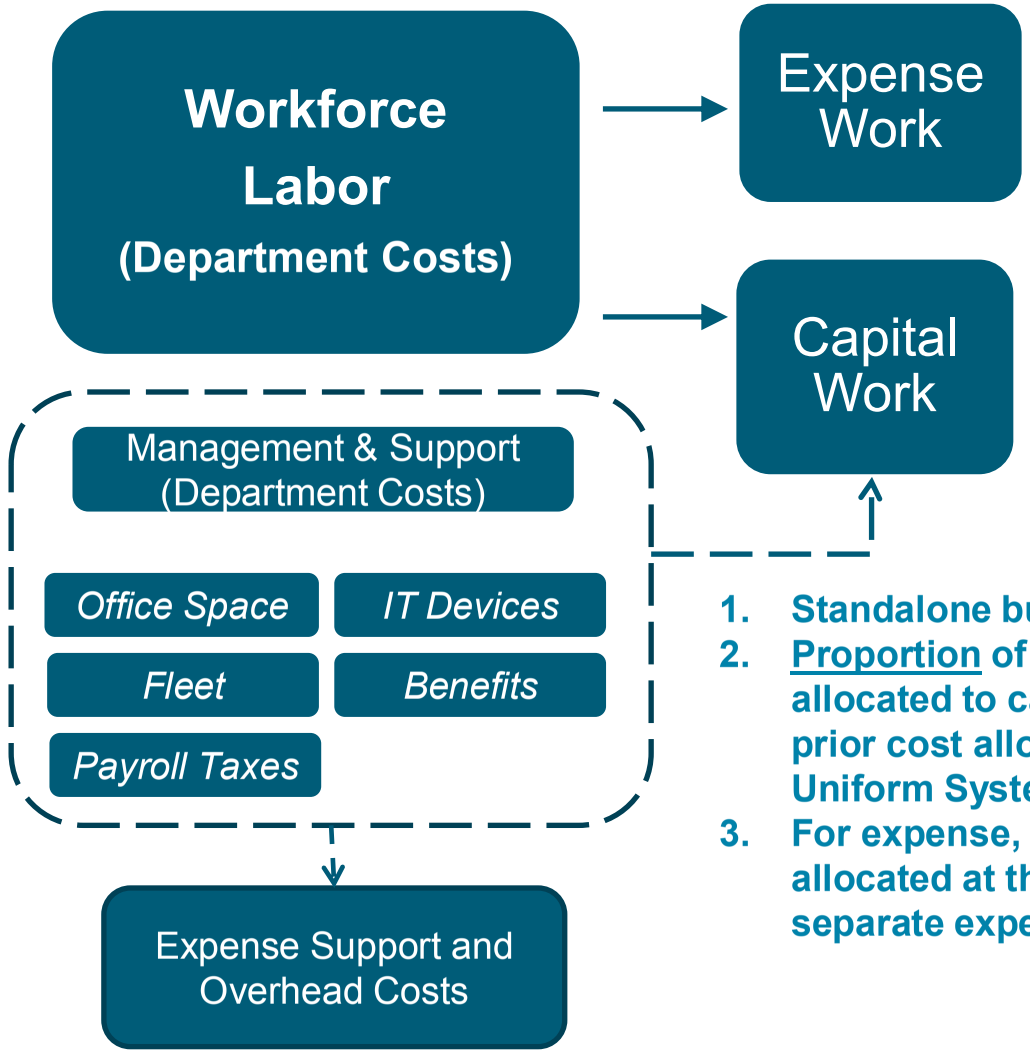
AppC-6

The old cost model provides a holistic view of the total cost of performing work.



The New Cost Model

The new cost model is designed to improve visibility and accountability for each cost component.



Includes labor plus minimal labor-related overheads

Includes labor, standard capital overheads, and allocations of the support & overhead costs

1. **Standalone budget for support and overhead costs**
2. **Proportion of the support & overhead costs are allocated to capital MWCs, consistent with PG&E's prior cost allocation methodology and the FERC Uniform System of Accounts rules**
3. **For expense, support & overhead costs are not allocated at the MWC level; they will remain as separate expense line items**

AppC-7

The New Cost Model

Increased visibility with stand alone budget for support costs

Expense Work

- Cost of field activities includes direct labor only
- Support costs are NOT allocated to expense work but are accounted for as separate expense items

Capital Work

- Field charging includes direct labor
- Proportion of support costs are then allocated to capital work in accordance with the FERC Uniform System of Accounts

Accounting for existing balancing account activities handled similar to capital work to ensure balancing accounts reflect fully allocated costs

AppC-8

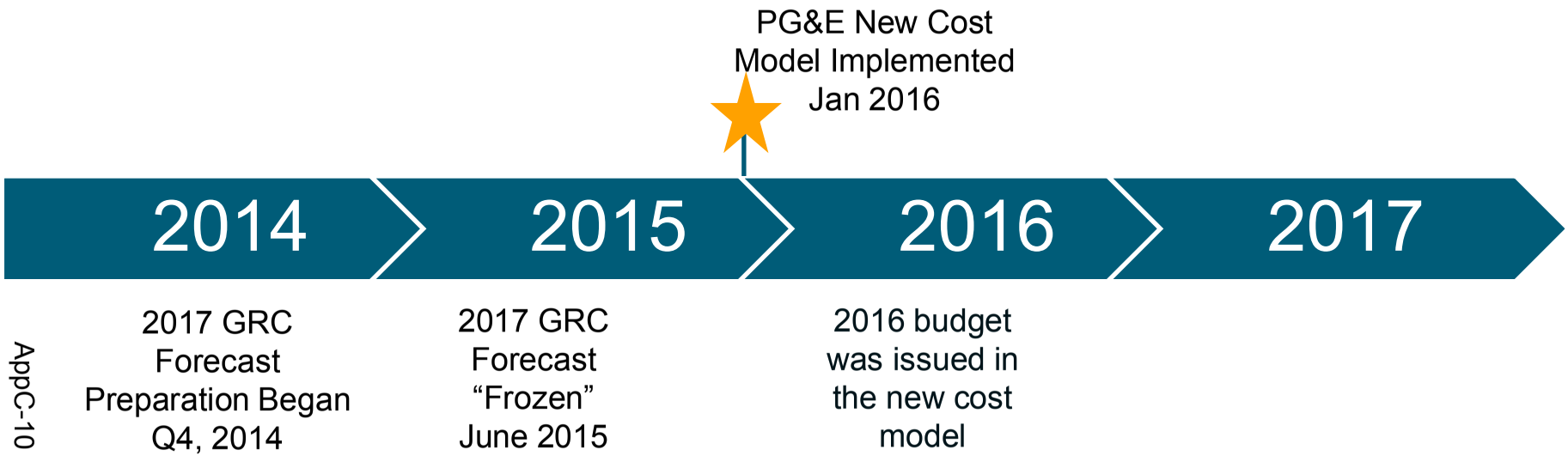
Benefits of the Change

The new cost model is designed to improve accountability by assigning costs where they can be better controlled

- Chargebacks are eliminated. Costs for these internal services (e.g., IT, Building Services, certain HR training, Transportation Services) are now identified as stand alone items
- Employee benefits and payroll tax ownership is with HR and Payroll, respectively

The new cost model more closely aligns with FERC regulatory reporting in the areas of employee benefits and payroll taxes

When did the change happen?



AppC-10

- PG&E's 2017 GRC forecast was prepared using the old cost model
- PG&E's 2016 final budget was prepared using the new cost model
- PG&E's new cost model was implemented in 2016

2017 Expense Regulatory Values and Budget ($M)

Lines of Business	Old Cost Model		New Cost Model		
	PG&E Final Forecast	2017 Decision	PG&E Final Forecast	2017 Decision	2017 Budget
Gas Distribution	$528.2	$510.7	$395.7	$380.2	$369.1
Electric Distribution	722.2	715.0	630.2	622.4	597.2
Energy Supply	743.9	739.2	611.9	607.2	631.9
Customer Care	429.5	398.9	341.8	315.5	339.6
Shared Services and IT	429.6	422.0	504.7	493.6	435.7
Corporate Services	308.8	305.5	268.1	265.2	270.5
Corporate Services Technology Programs	7.9	7.9	7.7	7.7	5.2
Benefits, Payroll Taxes and Other (Assumes 100% Non Executive STIP is embedded)	N/A	N/A	409.9	407.5	405.2
Reserve	0	0	0	0	45.0
Total Including Reserve	**$3,170.0**	**$3,099.2**	**$3,170.0**	**$3,099.2**	**$3,099.5**
50% STIP (Not funded by Customers)	N/A	N/A	N/A	(44)	N/A

AppC-11

1. Data is presented using the 2017 GRC exhibit format
2. Lines of Business IT projects are decentralized and presented within the sponsoring lines of business
3. 2017 Final Forecast and Decision amounts are translated into the new cost model based on the 2015 recorded recast methodology
4. PG&E sets asides a reserve (contingency fund) in the budgeting process as described in testimony (Exhibit (PG&E-2), Chapter 4). While not reflected in LOB budgets, the reserve is allocated each year to the LOBs to fund emergent work and will be reflected in year-end actual expenditures

Impacts to the 2017 GRC

- Meeting with ORA and Energy Division to walk through the translation of the 2017 GRC adopted/imputed amounts from the old cost model to the new cost model
- PG&E will prepare future budget reports in 2017, 2018 and 2019 with budgets and regulatory imputed values using the new cost model

AppC-12