

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

Application of Pacific Gas and Electric
Company for Authority, Among Other Things,
to Increase Rates and Charges for Electric and
Gas Service Effective on January 1, 2014
(U39M).

A.12-11-009
(Filed November 15, 2012)

And Related Matter.

Investigation 13-03-007

**PACIFIC GAS AND ELECTRIC COMPANY'S (U39M)
MARCH 30, 2017 BUDGET REPORT IN COMPLIANCE WITH
CALIFORNIA PUBLIC UTILITIES COMMISSION
DECISION 14-08-032**

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Dated: March 30, 2017

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In compliance with Decision 14-08-032 of the California Public Utilities Commission, Pacific Gas and Electric Company hereby submits the attached report presenting electric distribution, electric generation and gas distribution recorded amounts for 2016, by major work category, with explanations for significant differences from the Company’s budget for 2016.

This report is being filed in the above-captioned docket and served on the official service list for this docket.

Respectfully submitted,

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This March 30, 2017 Budget Report is submitted in compliance with California Public Utilities Commission Decision (D.) 14-08-032 (page 12), which continues the reporting requirement established in D.11-05-018.

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) 2016 budget and recorded spending.

Part B contains a detailed comparison of PG&E's 2016 budgeted and recorded expenditures for the Company's various lines of business. Specifically, Part B contains:

- PG&E's budgeted amounts for 2016, by Major Work Category (MWC), as of January 31, 2016, in a format generally consistent with the March 31, 2016 Budget Report.
- Recorded amounts for 2016, by MWC, with explanations for significant differences (greater than 10 percent or \$1 million) from PG&E's budgeted amounts.

Consistent with PG&E's proposal in its March 20, 2017 Proposed Decision Comments in the 2017 GRC,¹ PG&E intends to submit a second budget compliance report within 60 days of the issuance of the 2017 GRC final decision in order to provide a comparison of the Company's 2017 budget amounts to the imputed targets adopted in the final decision.

¹ "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" in A. 15-09-001 (March 20, 2017).

PART A – OVERVIEW

Part A – OVERVIEW

I. 2016 Expense and Capital Comparison of Budgeted and Recorded Costs

As reflected in the table below, in 2016, PG&E spent approximately \$50 million more than budgeted and approximately \$100 million more than the imputed regulatory value for expense. For capital expenditures, in 2016, PG&E spent approximately \$100 million more than budgeted and over \$600 million more than the imputed regulatory value.

As PG&E described in its November 12, 2014, Budget Compliance Report, due to the 2014 GRC decision timing and the post-test year capital allocation methodology, PG&E budgeted and spent less than the regulatory imputed values for capital expenditures in 2014, but PG&E expected to spend higher than the capital imputed regulatory values for 2015 and 2016. PG&E's 2016 capital spending is consistent with the previously stated plan.

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 PG&E's 2017 GRC testimony.² In brief, the new cost model uses a "labor only" labor rate which no longer includes support and overhead costs. These costs will be budgeted and recorded through separate line items for the expense programs. For capital jobs, the new cost model allocates the proportionate amount of the support and overhead costs to the work as required by the Federal Energy Regulatory Commission Uniform System of Accounts. 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 2016 imputed regulatory values from D.14-08-032 to reflect the new cost model.

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

**2016 BUDGET VS. ACTUAL EXPENSE BY LINE OF BUSINESS
(MILLIONS OF DOLLARS)**

Line No.	Line of Business	2016 Imputed Regulatory Values: Old Cost Model	2016 Imputed Regulatory Values: New Cost Model	2016 Budget: New Cost Model	2016 Actual: New Cost Model	2016 Actual vs. Budget Difference (%)	2016 Actual vs. Budget Difference (\$)	2016 Actual vs. Imputed Regulatory Values Difference (%)	2016 Actual vs. Imputed Regulatory Values Difference (\$)
1	Gas Distribution	\$420.8	\$335.8	\$380.3	\$390.4	2.6%	\$10.0	16.2%	\$54.5
2	Electric Distribution	653.4	548.7	560.3	644.3	15.0%	84.0	17.4%	95.7
3	Customer Care	419.9	321.7	309.5	303.8	-1.8%	(5.7)	-5.6%	(18.0)
4	Nuclear Generation	416.5	366.8	333.8	351.7	5.4%	17.9	-4.1%	(15.1)
5	Power Generation	248.9	199.3	194.3	201.9	3.9%	7.6	1.3%	2.7
6	Energy Policy & Procurement	63.5	47.9	42.6	41.4	-2.9%	(1.2)	-13.6%	(6.5)
7	IT	275.7	282.0	270.8	268.9	-0.7%	(1.9)	-4.6%	(13.1)
8	Shared Services	98.5	224.8	236.0	237.2	0.5%	1.2	5.5%	12.4
9	Corporate Services	317.0	277.4	284.2	272.6	-4.1%	(11.6)	-1.7%	(4.8)
10	Benefits, Payroll Taxes & Reimbursable Revenues	N/A	361.9	\$353.4	360.9	2.1%	7.5	-0.3%	(1.0)
11	Subtotal	\$2,914.3	\$2,966.3	\$2,965.2	\$3,073.1	3.6%	\$107.9	3.6%	\$106.8
12	Allocated Contingency	0.0	0.0	60.0	0.0	N/A	(60.0)	N/A	0.0
13	Total	\$2,914.3	\$2,966.3	\$3,025.2	\$3,073.1	1.6%	\$47.9	3.6%	\$106.8

Notes:

- 1) Allocated Contingency included in the table refers to funds provided to the lines of business for unforeseen events that require expedited funding outside the standard planning and budgeting process.
- 2) Imputed regulatory values, budget and recorded amounts reflect 100 percent of the costs, however, only 88 percent of the Administrative and General (A&G) costs are reflected in GRC revenue requirements.
- 3) Amounts include separately funded projects and programs that are incorporated in the 2014 GRC, such as the Cornerstone project, the Market Redesign Technology Upgrade, the Fuel Cell project, the Vaca Dixon project, and meter reading costs.
- 4) Beginning January 1, 2016, with the new cost allocation methodology, benefits, payroll taxes and reimbursable revenues associated with overheads are treated as Company-wide Corporate Items and separately stated from LOB costs. The 2016 budget for benefits, payroll taxes, and reimbursable revenues associated with overheads differs from the March 31, 2016 Budget Compliance Report due to a correction to remove benefit costs associated with Public Purpose Programs.
- 5) The amounts for Shared Services and IT in the 2016 Imputed Regulatory Values New Cost Model and 2016 Budget New Cost Model columns are net of Chargeback allocations.
- 6) The 2016 budgets have been modified from the amounts presented in the March 31, 2016 Budget Compliance Report for various lines of business to be consistent with PG&E's 2014 GRC presentation and to remove costs that are recovered outside the GRC. See additional information in the detailed variance explanation section.

**2016 BUDGET VS. ACTUAL CAPITAL BY LINE OF BUSINESS
(MILLIONS OF DOLLARS)**

Line No.	Line of Business	2016 Imputed Regulatory Values: Old Cost Model	2016 Imputed Regulatory Values: New Cost Model	2016 Budget: New Cost Model	2016 Actual: New Cost Model	2016 Actual vs. Budget Difference (%)	2016 Actual vs. Budget Difference (\$)	2016 Actual vs. Imputed Regulatory Values Difference (%)	2016 Actual vs. Imputed Regulatory Values Difference (\$)
1	Gas Distribution	\$642.8	\$636.3	\$786.0	\$932.9	18.7%	\$146.9	46.6%	\$296.6
2	Electric Distribution	1,382.1	1,357.3	1,552.5	1,594.2	2.7%	41.6	17.5%	236.9
3	Customer Care	147.7	138.5	151.8	145.3	-4.3%	(6.5)	4.9%	6.8
4	Nuclear Generation	220.1	225.2	228.8	223.5	-2.3%	(5.2)	-0.7%	(1.6)
5	Power Generation	288.3	292.9	309.1	276.3	-10.6%	(32.7)	-5.7%	(16.6)
6	Energy Policy & Procurement	25.2	25.6	12.0	11.5	-4.4%	(0.5)	-55.2%	(14.1)
7	IT	175.6	179.0	153.2	151.5	-1.2%	(1.8)	-15.4%	(27.5)
8	Shared Services	193.9	193.3	394.5	371.9	-5.7%	(22.6)	92.4%	178.6
9	Corporate Services	40.8	41.1	36.0	41.1	14.3%	5.1	0.1%	0.1
10	Subtotal	\$3,116.6	\$3,089.1	\$3,623.9	\$3,748.2	3.4%	\$124.3	21.3%	\$659.1
11	Allocated Contingency	0.0	0.0	12.0	0.0	N/A	(12.0)	N/A	0.0
12	Total	\$3,116.6	\$3,089.1	\$3,635.9	\$3,748.2	3.1%	\$112.3	21.3%	\$659.1

Notes:

- 1) Amounts include separately funded projects and programs that are incorporated in the 2014 GRC, such as the Cornerstone project, the Market Redesign Technology Upgrade, the Fuel Cell project, the Vaca Dixon project, and meter reading costs.
- 2) The 2016 budgets have been modified from the amounts presented in the March 31, 2016 Budget Compliance Report for various lines of business to be consistent with PG&E's 2014 GRC presentation and to remove costs that are recovered outside the GRC. See additional information in the detailed variance explanation section.

PART B – 2016 BUDGET VS. RECORDED COMPARISON

PART B – 2016 BUDGET VS. RECORDED COMPARISON

SECTION 1 – Summary and Background Information

The information presented in this report conforms to the organizational structure in PG&E's 2014 GRC showing. Projects previously funded separately that were incorporated into the 2014 GRC (e.g., the Cornerstone project, the Fuel Cell project) are included in the 2016 data presented here. In addition, consistent with the 2014 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 2016 budgeted and recorded costs for each line of business.

Gas Distribution – The Gas Distribution organization overspent its 2016 expense budget by \$10.0 million or 2.6 percent. The increase was primarily driven by higher spending due to the unplanned complexity of gas leak survey and repair work and lower than planned financial benefits from various efficiency initiatives. This increase is partially offset by lower than expected leak find rates on mains and services surveyed. Gas Distribution overspent its 2016 capital budget by \$146.9 million or 18.7 percent. The increase is primarily due to a higher unit cost than planned driven by: additional costs for sewer inspections; stricter city requirements for paving; and increased costs for traffic control. Other contributors to the increase were: a higher number of units completed than planned for non-leaking service replacements; higher than planned costs for mobile home park work; and a higher volume of customer connections and projects requested by third parties or government agencies.

Electric Distribution – The Electric Distribution organization overspent its 2016 expense budget by \$84.0 million or 15.0 percent. The primary driver was higher spending on major emergencies due to severe weather events and wildfires. Additional increases were due to higher volumes of routine emergency related work and higher unit costs due to overtime and contracting costs for complex outages. These increases were offset, in part, by a postponed start of the surge arrester grounding program and higher joint pole credits to offset pole-related expenses. Electric Distribution overspent its 2016 capital budget by \$41.6 million or 2.7 percent. The increase was primarily due to higher spending on complex outages for routine emergencies, installation of additional protection devices to mitigate customer outages, substation SCADA projects accelerated from 2017, and substation emergency equipment replacements. The increase was partially offset by third-party delays for Rule 20A projects, adjusted schedules for substation switchgear projects, lower demand in customer connections, and permitting and customer-related delays in distribution line capacity projects.

Customer Care – The Customer Care organization underspent its 2016 expense budget by \$5.7 million or 1.8 percent. The primary driver was reduced manual meter reading expense as a result of SmartMeter installations. Additional decreases were due to local customer service representative improved processes and non-residential Peak Day Pricing education and outreach scope reduction, as well as Customer Care resources supporting emergent work funded outside of the GRC. These decreases were offset, in part, by additional support for New Revenue Development work, higher

demand for wireless and fiber services, and overtime labor due to unanticipated manual billing corrections associated with rate changes. Customer Care underspent its 2016 capital budget by \$6.5 million or 4.3 percent. The decrease was primarily due to lower than planned spending on office equipment and a funding transfer to Corporate Real Estate for costs associated with customer service office remodeling. These decreases were partially offset by higher spending on gas meter replacement.

Nuclear Generation – The Nuclear Generation organization overspent its 2016 expense budget by \$17.9 million or 5.4 percent. The increase was primarily due to cyber security scope increase resulting from the clarification of regulatory requirements, and higher maintenance cost related to a refueling outage. The increase was also attributed to not fully achieving the planned security project-related efficiencies. In 2016, Nuclear Generation underspent its capital budget by \$5.2 million or 2.3 percent, primarily due to the rescheduling of two major radio replacement projects. The decrease was also driven by revised milestone payments to vendors for the Main Generator Stator project.

Power Generation – The Power Generation organization overspent its expense budget by \$7.6 million or 3.9 percent in 2016. The primary drivers of the overspending were unplanned hazardous drought- and bark beetle-related-tree removal; greater than planned inspections and evaluations performed under the Asset Management penstock program; unplanned incremental work at DeSabra and Central Hydro Areas such as tunnel repair, rock trap cleaning; and patching work at Spaulding Dam. In 2016, Power Generation underspent its capital budget by \$32.7 million or 10.6 percent. This underspending was primarily due to permit and weather delays, alternative analysis that resulted in rescheduling of work into 2017, higher than planned capital efficiencies, and delay in Division of Dam Safety review of the Pit 6 Replace Spillway Apron project.

Energy Policy and Procurement – The Energy Policy and Procurement organization underspent its expense budget by \$1.2 million or 2.9 percent in 2016. The primary drivers of the underspending were higher than expected labor vacancies, lower than expected Competitive Solicitations project spending, delayed requirements from the California Independent System Operator (CAISO), and less work than planned in the CAISO Markets and Performance Initiative program. The Energy Policy and Procurement organization spent to the 2016 capital budget.

Information Technology (IT) – IT underspent its 2016 expense budget by \$1.9 million or 0.7 percent. The primary driver of the underspending is higher than planned cost allocation to capital. The underspending is partially offset by additional application support for Geographic Information Systems, Mobile Technology, and Business Technology Affordability Initiatives, and higher than planned management costs for the University Program and cyber security. IT underspent its 2016 capital budget by \$1.8 million or 1.2 percent. The underspending was primarily due to: a delay in the Field Area Network strategy to better assess line of business requirements; successful contract negotiations, resulting in better software Enterprise License Agreement pricing; and lower than planned Disaster Recovery implementation costs. This decrease was partially offset by focused efforts on projects in the Network Technologies asset class, higher than planned storage purchases in Datacenter Technologies, and the addition of the Security asset replacement program.

Shared Services – The Shared Services organization overspent its 2016 expense budget by \$1.2 million or 0.5 percent. The primary driver of the overspending was unplanned work such as the Enterprise Trailer Initiative – Trailer Upgrade Program projects. Shared Services underspent its 2016 capital budget by \$22.6 million or 5.7 percent. The underspending is primarily due to extending the project timeline of 77 Beale Electric Distribution System projects.

More information is provided in the sections below, which provide variance explanations by MWC between 2016 recorded 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 changes since PG&E's presentation of the 2014 GRC.

SECTION 2
Gas Distribution
Detailed Variance Explanations

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION**

**TABLE 2-1
GAS DISTRIBUTION 2016 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Support	AB	\$11,947	\$36,549	\$24,602
2	Provide Field Service	DD	51,499	44,752	(6,747)
3	Leak Survey	DE	27,394	25,048	(2,345)
4	Locate & Mark	DF	21,458	28,586	7,128
5	Cathodic Protection	DG	9,648	9,443	(205)
6	Develop & Provide Training	DN	1,750	3,126	1,376
7	Meter Protection Program	EX	703	877	174
8	Operate Gas Distribution System	FG	9,216	10,573	1,357
9	Preventive Maintenance (Gas)	FH	13,075	15,483	2,408
10	Corrective Maintenance (Gas)	FI	99,406	72,439	(26,967)
11	Gas Mapping	GF	4,075	4,607	532
12	Gas Distribution Planning & Operations Engineering	GG	8,094	5,116	(2,978)
13	Manage Energy Efficiency-NonBA	GM	5,410	3,494	(1,916)
14	Gas Research, Development & Demonstration	GZ	2,415	2,116	(300)
15	Change/Maintain Used Gas Meters	HY	1,407	2,973	1,566
16	Gas Distribution Integrity Management (NonBA)	JQ	30,347	30,142	(205)
17	Gas Distribution Leak Survey & Repair	JU	18,933	28,956	10,023
18	Maintain IT Applications & Infrastructure	JV	21,602	22,485	883
19	Provide Executive Services	KT	1,200	1,628	428
20	Gas Expense WRO Activities	LK	5,337	5,682	346
21	Operational Management	OM	9,237	10,488	1,251
22	Operational Support	OS	26,180 ^(a)	25,789	(391)
23	Total		\$380,332	\$390,354	\$10,022

(a) The 2016 budget differs from the amount presented in the March 31, 2016 report to move Gas Distribution Business Finance support and Human Resources training costs from Corporate Services to Gas Distribution in order to be consistent with PG&E's 2014 GRC presentation.

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION**

**TABLE 2-2
GAS DISTRIBUTION 2016 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Tools and Equipment	05	\$14,690	\$368	(\$14,322)
2	Gas Pipeline Replacement Program	14	288,843	364,555	75,712
3	Gas Meter Protection	27	196	592	397
4	Gas Distribution Customer Connections	29	67,836	90,383	22,548
5	NGV – Station Infrastructure	31	3,989	4,265	277
6	Gas Distribution New Capacity	47	35,190	39,806	4,616
7	Gas Distribution Reliability	50	184,407	224,210	39,802
8	Gas Work at the Request of Others	51	78,769	89,901	11,132
9	Gas Distribution Emergency Response	52	656	1,571	914
10	Install New Gas Meters	74	2,932	1,898	(1,034)
11	Manage Buildings	78	18,335	15,224	(3,111)
12	Build IT Applications & Infrastructure	2F	31,343 ^(a)	43,376	12,033
13	Gas Distribution Replace/Convert Customer HPRs	2K	31,691	27,529	(4,162)
14	Gas Distribution Control Operations Assets	4A	27,166	29,267	2,101
15	Total		\$786,043	\$932,945	\$146,902

(a) The 2016 budget differs from the amount presented in the March 31, 2016 report to align Enterprise Corrective Action Program and Enterprise Records Information Management costs from Gas Distribution to IT to be consistent with the 2014 GRC Application.

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2014 GENERAL RATE CASE APPLICATION 12-11-009
GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION**

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; and (2) Collection point for zero sum allocation type work such as Standard Cost Variance,¹ Blanket Purchase Orders and Working Stock. 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.

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).

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GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION**

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.

**PACIFIC GAS AND ELECTRIC COMPANY
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GAS DISTRIBUTION EXPENSE AND CAPITAL INFORMATION**

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.

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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.

Per Decision 14-08-032, the DIMP balancing account was closed beginning in 2014. MWC JS is no longer used and replaced by MWC JQ.

MWC JU – Gas Distribution Leak Survey & Repair – MWC JU is used to record costs incurred above the Balancing Account cost cap (spend and units) for Gas Leak Survey, Gas Leak Repair, Meter Set Gas Leak Repair, Gas Tee-Cap Repair, and Gas Atmospheric Corrosion Inspection.

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

MWC KT – Provide Executive Services – includes support for PG&E functions and Utility performance. The chief responsibility of the Utility President is to assure that PG&E's LOBs provide safe and reliable gas and electric service that is affordable and environmentally sound. The primary focus of this office has been to provide leadership to PG&E's employees so that the Company achieves its core vision.

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.

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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.

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**TABLE 2-3
GAS DISTRIBUTION 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	AB	\$11,947	\$36,549	\$24,602	Increase due to lower than planned financial benefits from various efficiency initiatives and additional management consulting contract costs.
2	DD	51,499	44,752	(6,747)	Decrease due to lower than expected customer requests for pilot relights, gas service starts and gas service stops.
3	DE	27,394	25,048	(2,345)	Decrease due to adherence to the leak survey schedule resulting in reduced weekday overtime and weekend work.
4	DF	21,458	28,586	7,128	Increase primarily due to higher than budgeted unit cost driven by contract resources needed to complete volume of work.
5	DG	9,648	9,443	(205)	Immaterial variance.
6	DN	1,750	3,126	1,376	Increase due to additional mandatory gas qualifications training that was not included in the plan.
7	EX	703	877	174	Increase due to higher unit costs than planned. Higher unit cost driven by geographic location and customer resistance to having barrier posts installed which required repeat trips and additional support personnel to complete units.
8	FG	9,216	10,573	1,357	Increase primarily due to a classification correction for Gas Operation Center Predictive Tools studies from MWC 4A (capital) to MWC FG (expense).
9	FH	13,075	15,483	2,408	Increase due to more units completed compared to planned, and higher than planned unit costs for main and service preventive maintenance as a result of higher contract costs and project complexity.
10	FI	99,406	72,439	(26,967)	Decrease due to lower than expected leak find rates on mains and services surveyed.
11	GF	4,075	4,607	532	Increase due to higher volume of mapping work completed, specifically for the Corrective Action Program (CAP).

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**TABLE 2-3
GAS DISTRIBUTION 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
12	GG	8,094	5,116	(2,978)	Decrease due to hiring delays for Gas System Operations engineering personnel.
13	GM	5,410	3,494	(1,916)	Decrease due to rescheduling of non-compliance/safety related work for distribution assets and more trailer maintenance completed at a lower unit cost.
14	GZ	2,415	2,116	(300)	Decrease due to personnel turn over, success in securing funding from the California Energy Commission, and two project delays.
15	HY	1,407	2,973	1,566	Increase due to higher volume of atmospheric corrosion work performed on gas meters than planned. Additional units were completed to adhere to upcoming compliance timeframes.
16	JQ	30,347	30,142	(205)	Immaterial variance.
17	JU	18,933	28,956	10,023	Increase driven by higher than planned main and service leak repair hours per unit due to complexity of the work.
18	JV	21,602	22,485	883	Immaterial variance.
19	KT	1,200	1,628	428	Increase due to higher than planned management support costs.
20	LK	5,337	5,682	346	Immaterial variance.
21	OM	9,237	10,488	1,251	Increase primarily due to clerical support funding shifting from MWC OS to MWC OM, and increased Leak Management headcount to support the Super Crew processes including leak survey, leak repair and logistics. Super Crew is a cross-functional team that surveys and repairs leaks.
22	OS	26,180	25,789	(391)	Immaterial variance.
23	Total	\$380,332	\$390,354	\$10,022	

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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 (CSR) 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. CSR 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.

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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.

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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.

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**TABLE 2-4
GAS DISTRIBUTION 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	05	\$14,690	\$368	(\$14,322)	Decrease due to the re-allocation of the following project costs from MWC 05 to MWC 2F: (1) purchase of 10 Picarro units; (2) Gas Operations' radio project; and (3) upgrade of Gas Operations' distribution SCADA system. These projects are placed in MWC 2F as they are technology projects.
2	14	288,843	364,555	75,712	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. Other contributors are hard soil conditions and extensive rainy weather beyond expectations.
3	27	196	592	397	Increase primarily due to higher volume of work completed and higher unit cost than planned for. Higher unit cost is driven by geographic location and customer resistance to having barrier posts installed which required repeat trips and additional support personnel to complete the work.
4	29	67,836	90,383	22,548	Increase primarily due to a higher volume of customer connections requested.
5	31	3,989	4,265	277	Immaterial variance.
6	47	35,190	39,806	4,616	Increase primarily due to a higher unit cost for regulator replacements (MAT 47C). Drivers for the higher unit cost include additional costs for dual asset (transmission and distribution) requirements and a large complex project.
7	50	184,407	224,210	39,802	Increase primarily due to a higher number of units completed than planned including more non-leaking service replacements and higher than plan costs for mobile home park work.
8	51	78,769	89,901	11,132	Increase due to higher volume of projects (requested by third parties or government agencies) than planned.
9	52	656	1,571	914	Increase due to more emergency work (dig-ins) than planned.
10	74	2,932	1,898	(1,034)	Decrease due to lower unit costs than planned partly driven by multi meter manifold regulation replacement efficiency and job time decreases.

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**TABLE 2-4
GAS DISTRIBUTION 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
11	78	18,335	15,224	(3,111)	Decrease due to construction delays caused by weather and permitting lags on the Gas Operations Technical Training Center.
12	2F	31,343	43,376	12,033	Increase primarily due to: (1) purchase of 10 Picarro units to complete effort started in 2015; (2) Gas Operations' radio project to comply with PG&E's "hands-free" cell phone safety policy; and (3) upgrade of Gas Operations distribution SCADA system to complete system replacement effort delayed in 2015. Budget for these three projects was originally allocated to MWC 05. This increase was partially off-set by lower spend in the Leak Survey Operating System-Device Update effort, which replaced old devices and associated software, due to a strategic change in the deployment plan to a phased approach based on device condition; and various cyber mitigation projects that were completed below budget.
13	2K	31,691	27,529	(4,162)	Decrease mainly due to lower units than planned due to portfolio reprioritization.
14	4A	27,166	29,267	2,101	Increase due to higher units than planned due to efficiency gains related to design improvements resulting in lower unit cost. Additionally, there was more work done for future readiness than planned. This increase was offset by an accounting reclassification correction to MWC FG for the Gas Operation Center Predictive Tools studies.
15	Total	\$786,043	\$932,945	\$146,902	

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SECTION 3
Electric Distribution
Detailed Variance Explanations

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**TABLE 3-1
ELECTRIC DISTRIBUTION 2016 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget ^(b)	2016 Actual	2016 Difference Higher/(Lower)
1	Support and Emergency Preparedness and Response	AB	\$28,112	\$27,037	(\$1,075)
2	Electric Distribution Operation Activities	BA	26,062	27,277	1,215
3	Perform Reimbursable Work for Others	BC	0	37	37
4	Patrols and Inspections	BF	28,927	30,287	1,359
5	Electric Distribution Routine Emergency	BH	43,931	60,810	16,880
6	Maintenance of Other Equipment	BK	1,560	1,548	(12)
7	Grid Integration and Innovation	CY	0	724	724
8	Customer Field Service Work	DD	13,149	14,997	1,848
9	Develop & Provide Training	DN	3,097	2,735	(362)
10	New Customer Connection Service Inquiry Activities	EV	9,003	9,806	803
11	Work Requested by Others (WRO)	EW	10,547	12,296	1,749
12	Electric Engineering and Planning	FZ	13,113	12,110	(1,003)
13	Poles-Intrusive Inspection/Test and Treat	GA	12,163	9,153	(3,010)
14	Operate and Maintain Substations	GC	24,572	24,613	41
15	Electric Distribution Mapping	GE	2,767	2,827	60
16	Vegetation Management Balancing Account	HN	198,800	198,736	(64)
17	Distribution Automation and Protection Support	HX	1,272	1,400	127
18	Electric Distribution Major Emergency	IF	46,865	119,204	72,339
19	Maintain IT Applications & Infrastructure	JV	5,545	3,057	(2,487)
20	Preventive Maintenance and Equipment Repair, Overhead	KA	39,051	32,175	(6,876)
21	Preventive Maintenance and Equipment Repair, Underground	KB	13,515	16,134	2,619
22	Preventive Maintenance and Equipment Repair, Network	KC	3,578	4,196	618
23	Provide Executive Services	KT	1,320	1,072	(248)
24	Operational Management	OM	10,199	11,957	1,758
25	Operational Support	OS	23,154 ^(a)	20,153	(3,001)
26	Total		\$560,301	\$644,341	\$84,039

(a) The 2016 budget differs from the amount presented in the March 31, 2016 report to move Electric Distribution Business Finance support and Human Resources training costs from Corporate Services to Electric Distribution in order to be consistent with PG&E's 2014 General Rate Case presentation.

(b) Corporate Security costs previously reported in MWC KZ were moved from Electric Distribution to Corporate Services.

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**TABLE 3-2
ELECTRIC DISTRIBUTION 2016 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Tools and Equipment	05	\$8,068	\$9,228	\$1,160
2	Electric Distribution Line and Equipment Capacity	06	108,350	92,283	(16,067)
3	Pole Replacement	07	72,304	81,028	8,723
4	Base Reliability Program	08	39,046	32,156	(6,890)
5	Electric Distribution Automation and Protection	09	42,891	57,564	14,672
6	Electric Work at the Request of Others	10	80,648	98,384	17,735
7	Electric Distribution Customer Connections	16	379,399	361,251	(18,148)
8	Electric Distribution Routine Emergency	17	131,651	171,425	39,774
9	Emergency Preparedness & Response	21	(11,283)	3,595	14,879
10	Implement Real Estate Strategy/Manage Buildings	23	4,038	423	(3,616)
11	Electric Distribution Work at the Request by Others - Rule 20A	30	81,239	31,123	(50,116)
12	Electric Distribution Substation Capacity	46	50,127	42,862	(7,265)
13	Electric Distribution Replace Substation Equipment	48	71,105	43,953	(27,152)
14	Targeted Reliability Program	49	57,264	75,066	17,803
15	Electric Distribution Substation Transformer Replacements	54	45,002	54,463	9,461
16	Electric Distribution Underground Asset Replacement	56	109,878	118,973	9,096
17	Electric Distribution Substation Safety and Security	58	1,523	602	(921)
18	Electric Distribution Substation Emergency Replacement	59	33,165	58,781	25,616
19	Electric Operations Control Center Facility	63	1,667	1,812	145
20	Electric Distribution Major Emergency	95	55,210	55,964	754
21	Electric Distribution Preventive Maintenance, Overhead	2A	114,262	112,391	(1,871)
22	Electric Distribution Preventive Maintenance, Underground	2B	43,774	48,693	4,919
23	Electric Distribution Preventive Maintenance, Network	2C	14,581	14,532	(48)
24	Build IT Applications & Infrastructure	2F	18,611	27,612	9,001
25	Total		\$1,552,521	\$1,594,164	\$41,643

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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 and an offset for productivity improvements. 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, dispatchers, schedulers 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, dispatching work to troublemen in the field, 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 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.

MWC DD – Customer Field Service Work – covers Electric Distribution’s portion of customer-generated field service activities, specifically start/stop service requests, emergency response and other customer-generated electric field service requests. Prior to 2017, this work also includes the dispatch and scheduling of work to troublemen in the field.

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

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MWC DN – Develop & 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.

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- 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 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; refurbish and overhaul of specific types of OH distribution line equipment; repair of OH facilities to address migratory bird requirements; investigate

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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; refurbishment and overhaul of specific types of UG distribution line equipment; 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 KT – Provide Executive Services – includes support for PG&E functions and Utility performance. The chief responsibility of the Utility President is to assure that PG&E's LOB's provide safe and reliable gas and electric service that is affordable and environmentally sound. The primary focus of this office has been to provide leadership to PG&E's employees so that the Company achieves its core vision.

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 from cost centers that provide support that is unrelated to supervision and management. Examples include Business Finance and Sourcing that support the lines of business.

New MWC Descriptions – Expense

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

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.

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**TABLE 3-3
ELECTRIC DISTRIBUTION 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	AB	\$28,112	\$27,037	(\$1,075)	Decrease primarily due to an underrun in Emergency Preparedness & Response's headcount resulting from delays in hiring due to re-organization and delays in recruiting qualified personnel.
2	BA	26,062	27,277	1,215	Increase due to higher overtime level than anticipated due to resource constraints in the Dispatch and Scheduling Department. Increase also due to Distribution Operator charging for substation support not originally planned for.
3	BC	0	37	37	Increase due to unreimbursed materials, fleet, and IT overhead costs while supporting utilities requesting mutual assistance.
4	BF	28,927	30,287	1,359	Increase due to higher than planned overtime and additional contractor costs in order to meet all CPUC patrol and inspection due dates. Increase in contractor costs driven by internal inspector vacancies, and catch-up on work after inclement weather during the first quarter of 2016.
5	BH	43,931	60,810	16,880	Increase due to a higher volume of routine emergency work as compared to plan, higher than planned unit cost, and higher overtime and contracting costs due to the complexity of the outages.
6	BK	1,560	1,548	(12)	Immaterial variance.
7	CY	0	724	724	Increase due to higher labor than planned for the new Grid Integration and Innovation (GII) organization formed in October 2016. Costs of the employees were originally planned in MWC FZ.
8	DD	13,149	14,997	1,848	Increase primarily due to volume increase in customer-driven disconnects and reconnects as compared to plan.
9	DN	3,097	2,735	(362)	Decrease due to reprioritization of training work to support activities in MWC BH (Routine Emergency).
10	EV	9,003	9,806	803	Immaterial variance.
11	EW	10,547	12,296	1,749	Increase due to higher volume of work than planned, costs related to raising manhole covers, lids and vents to grade after repaving work in Fresno, and higher than anticipated support and workaround spend for infrastructure work in San Francisco.

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**TABLE 3-3
ELECTRIC DISTRIBUTION 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
12	FZ	13,113	12,110	(1,003)	Decrease due to delays in back-filling electric Distribution Engineer vacancies, fewer Transformer Investigations than planned, and employees transferred to the new GII organization reported in MWC CY.
13	GA	12,163	9,153	(3,010)	Decrease due to higher than expected Joint Pole Credits resulting from an increased volume of pole reinforcements.
14	GC	24,572	24,613	41	Immaterial variance.
15	GE	2,767	2,827	60	Immaterial variance.
16	HN	198,800	198,736	(64)	Immaterial variance.
17	HX	1,272	1,400	127	Increase due to unplanned annual software license fee.
18	IF	46,865	119,204	72,339	Increase primarily due to high volume and cost of vegetation contract work. This work included vegetation remediation and debris removal caused by 2015 wildfires.
19	JV	5,545	3,057	(2,487)	Decrease primarily due to less expense work than planned on the Enterprise Estimating Solution (EES) and Electronic Time Reporting projects; reprioritization of the Security Asset Management effort to allow for other high priority projects; and de-scoping of the Automated Roster Crew Callout System (ARCOS) Enhancement project in order to assess possible third-party hosted software solutions.
20	KA	39,051	32,175	(6,876)	Decrease primarily due to the postponed start of surge arrester grounding program as result of revised scope of work.
21	KB	13,515	16,134	2,619	Increase due to higher unit cost of underground facility repairs primarily attributed to the higher cost of replacing heavier enclosure lids with lighter standard-sized lids, and grounding of transformers not included in budget.
22	KC	3,578	4,196	618	Increase primarily due to higher than planned network Supervisory Control and Data Acquisition (SCADA) equipment failures and associated repairs.

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**TABLE 3-3
ELECTRIC DISTRIBUTION 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
23	KT	1,320	1,072	(248)	Decrease due to a lower level of labor and employee-related spending than planned. Decrease is partially offset by more contract spending than planned.
24	OM	10,199	11,957	1,758	Increase due to higher than planned management labor costs in Electric Distribution. Increase is partially offset by higher than planned allocation to capital and balancing accounts.
25	OS	23,154	20,153	(3,001)	Decrease due to lower than planned support headcount in Electric Distribution and lower than planned support costs in Finance & Risk. Decrease is partially offset by higher than planned employee-related and contracts costs in Electric Distribution, and higher than planned support costs in Human Resources.
26	Total	\$560,301	\$644,341	\$84,039	

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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. Prior to 2016, this MWC also included 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.

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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 includes 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.

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.

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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.

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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.

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

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**TABLE 3-4
ELECTRIC DISTRIBUTION 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	05	\$8,068	\$9,228	\$1,160	Increase due to additional Applied Technology Services tools and equipment needed to replace obsolete equipment, restock insufficient inventory, expand capability of existing equipment to perform additional testing, maintain lab standards, and allow specialized testing on new technology at the request of clients.
2	06	108,350	92,283	(16,067)	Decrease primarily due to permitting and customer-related delays, resulting in incomplete projects that were carried over into 2017. In addition, less emergent work materialized in 2016 than planned.
3	07	72,304	81,028	8,723	Increase due to higher than planned unit costs driven by a higher level of overtime and double-time costs and higher than planned estimating costs. Higher estimating costs are partially attributed to transition to new pole loading calculation tool during 2016. Additionally, lower than planned Joint Pole Credits were received.
4	08	39,046	32,156	(6,890)	Decrease due to reductions in annealed/deteriorated conductor replacement and wires down work in order to help offset increases in costs for replacing distribution wood poles in MWC 07. Planned reliability work was rescheduled to 2017.
5	09	42,891	57,564	14,672	Increase due to higher volume of substation SCADA work performed in 2016 than planned. SCADA projects were completed more quickly than anticipated, so work originally planned for 2017 was moved to 2016.
6	10	80,648	98,384	17,735	Increase due to higher volume of third-party driven work, and a higher percentage of non-reimbursed projects than planned.
7	16	379,399	361,251	(18,148)	Decrease due to fewer transformer units purchased to match lower demand, partially offset by an increase in residential volume.
8	17	131,651	171,425	39,774	Increase due to a higher volume of routine emergency work as compared to plan, and higher than planned unit cost driven by overtime and contracting costs due to complexity of the outages.
9	21	(11,283)	3,595	14,879	Increase due to planned efficiency savings budgeted in MWC 21 but realized in other MWCs throughout the year.

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**TABLE 3-4
ELECTRIC DISTRIBUTION 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
10	23	4,038	423	(3,616)	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	81,239	31,123	(50,116)	Decrease primarily due to third-party project delays, such as city or county delays in obtaining easements or securing land rights, late review of composite design by other joint-trench participants, schedule delays where PG&E was not the lead trenching agent, unforeseen environmental issues, and changes requested by a county after the design was completed.
12	46	50,127	42,862	(7,265)	Decrease due to project delays for substation work at Menlo and Windsor Substations. The Menlo delay was caused by clearance constraints. The work at Windsor was delayed due to permitting issues with the City of Windsor.
13	48	71,105	43,953	(27,152)	Decrease due to delays in several switchgear projects. Changes to the switchgear ordering process impacted Oakland D 4 kV and Vallejo B 4 kV projects. Re-scoping of work and coordination with other work at the substations impacted Hunters Point 12 kV, El Cerrito G 12 kV and Martin 12 kV projects. San Francisco N 12 kV switchgear was impacted by delays in obtaining the building demolition permits.
14	49	57,264	75,066	17,803	Increase due to the installation of additional distribution line sensors, deployment of new line protection technology (TripSaver II devices) and installation of more underground protection devices used to help mitigate customer outages.
15	54	45,002	54,463	9,461	Increase due to an increase in contract management and materials costs for the Oakland C Bank 1 transformer replacement project, increased costs for the Embarcadero De-Coupling project, and higher than forecast costs for four other transformer replacement projects.

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**TABLE 3-4
ELECTRIC DISTRIBUTION 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
16	56	109,878	118,973	9,096	Increase due to higher unit costs of reliability related and critical operating equipment cable replacement projects than planned, cable rejuvenation projects carried over from 2015, and an emergent cable replacement project in Cedar Grove.
17	58	1,523	602	(921)	Decrease due to reprioritization of seismic work at Stockton A substation and two security projects at Marina and San Francisco G substation to fund substation emergency work.
18	59	33,165	58,781	25,616	Increase due to in-flight emergency projects carried over from 2015, and three new transformer emergency projects at San Mateo, North Tower, and Henrietta substations.
19	63	1,667	1,812	145	Immaterial variance.
20	95	55,210	55,964	754	Immaterial variance.
21	2A	114,262	112,391	(1,871)	Decrease due to lower bird safe retrofit unit costs, rescheduling of San Francisco decorative streetlights pending a decision on fiber glass versus cast iron, and a decision to not proceed with a smart streetlight photocell technology project, offset by an increase due to a large shift in volume of Critical Operating Equipment repairs to replacements as a result of aging infrastructure.
22	2B	43,774	48,693	4,919	Increase due to higher unit costs for underground replacements and enclosures primarily due to higher than planned use of contract resources.
23	2C	14,581	14,532	(48)	Immaterial variance.
24	2F	18,611	27,612	9,001	Increase primarily due to an acceleration of the Electric Distribution Geographic Information Systems Phase 2 effort to enhance system performance; additional business requirements identified for the Electronic Time Reporting project; and the prioritization of the EES which will be consolidating and simplifying estimating solutions across Electric and Gas Operations.
25	Total	<u>\$1,552,521</u>	<u>\$1,594,164</u>	<u>\$41,643</u>	

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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	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Read & Investigate Meters	AR	\$17,484	\$12,088	(\$5,395)
2	Manage Electric Grid Ops	CY	0	843	843
3	Perform Field Services	DD	1,064	679	(386)
4	Manage Customer Inquiries	DK	68,302	65,394	(2,908)
5	Develop New Revenue	EL	21,754 ^(a)	27,968	6,214
6	Perform Electric Meter Maintenance	EY	10,613	10,684	71
7	Manage Various Customer Care Processes	EZ	35,094	31,940	(3,154)
8	Retain and Grow Customers	FK	844	746	(99)
9	Manage Energy Efficiency (Non-Balancing Account)	GM	4,706	5,752	1,046
10	Perform Gas Meter Maintenance	HY	7,236	8,270	1,034
11	Process Customer Bills	IS	56,873	59,131	2,258
12	Manage Credit	IT	15,148	14,920	(228)
13	Collect Revenue	IU	23,977	19,006	(4,971)
14	Provide Account Services	IV	19,008	16,832	(2,176)
15	Maintain IT Applications & Infrastructure	JV	10,655	10,688	33
16	Operational Management	OM	9,629	11,171	1,543
17	Operational Support	OS	7,067 ^(b)	7,641	574
18	Total		\$309,454 ^(c)	\$303,753	(\$5,701)

The 2016 budget differs from the amounts presented in the March 31, 2016 report and reflects the following changes:

- (a) An adjustment to remove reimbursements from MWC EL to make the budget and actuals comparable.
- (b) An adjustment to move Customer Care Business Finance support costs from Corporate Services to Customer Care to be consistent with PG&E's 2014 GRC presentation.
- (c) An adjustment to exclude SmartMeter™ Opt-Out Program (SOP) costs. The SOP Phase 2 Decision (D.) 14-12-078 which supersedes the 2014 GRC D.14-08-032 for SOP, instructs PG&E to record revenue requirements associated with SOP directly to the SOP balancing account, retroactive to January 1, 2015.

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

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	CFS Tools Capital	05	\$906	\$235	(\$671)
2	Office Equipment	21	10,199	1,123	(9,076)
3	Implement Real-estate Strategy	23	7,700	107	(7,593)
4	Electric Metering Capital	25	48,523	51,112	2,589
5	Gas Metering Capital	74	70,172	79,085	8,912
6	Build IT Applications & Infrastructure	2F	14,268	13,601	(667)
7	Total		\$151,768 ^(a)	\$145,263	(\$6,505)

(a) The 2016 budget differs from the amount presented in the March 31, 2016 report to reflect an adjustment to exclude SOP costs. The SOP Phase 2 D.14-12-078, which supersedes the 2014 GRC D.14-08-032 for SOP, instructs PG&E to record revenue requirements associated with SOP directly to the SOP balancing account, retroactive to January 1, 2015.

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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 DD – Perform 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 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.

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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 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. Examples include Business Finance and Sourcing that support the lines of business.

**PACIFIC GAS AND ELECTRIC COMPANY
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CUSTOMER CARE EXPENSE AND CAPITAL INFORMATION**

New MWC Descriptions – Expense

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.

**PACIFIC GAS AND ELECTRIC COMPANY
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CUSTOMER CARE EXPENSE AND CAPITAL INFORMATION**

**TABLE 4-3
CUSTOMER CARE 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	AR	\$17,484	\$12,088	(\$5,395)	Decrease due to lower manual meter reading expenses as a result of additional SmartMeter™ installations, network connections, and efficiencies in work processes.
2	CY	0	843	843	Increase due to higher labor than planned as Grid Integration & Innovation was a new group formed in October 2016. Costs of the employees were originally planned in MWCs EZ, GM, IV and OM.
3	DD	1,064	679	(386)	Decrease due to use of SmartMeter™ capability to reduce field visits when customers request to start or stop service.
4	DK	68,302	65,394	(2,908)	Decrease due to time spent by local customer service representatives for general support, cash receiving activities, and answering billing inquiries that were originally planned in MWC DK, but recorded in MWC EZ.
5	EL	21,754	27,968	6,214	Increase due to: (1) higher labor than planned to support the increase in New Revenue Development work; and (2) higher demand for wireless and fiber services.
6	EY	10,613	10,684	71	Immaterial variance.
7	EZ	35,094	31,940	(3,154)	Decrease due to: (1) reprioritization of budget dollars to support Natural Gas Appliance Testing due to reclassification to GRC expense recorded in MWC GM; (2) non-residential Peak Day Pricing education and outreach scope reduction; (3) materials and postage costs for gas and electric reliability budgeted in MWC EZ, but recorded to gas and electric lines of business budgets; (4) partially offset due to time spent by local customer service representatives for general support, cash receiving activities, and answering billing inquiries that were originally planned in MWCs DK and IU.
8	FK	844	746	(99)	Decrease due to lower than planned customer retention activities.
9	GM	4,706	5,752	1,046	Increase due to historical Natural Gas Appliance Testing costs being reclassified from Non-Earnings (balancing account) to GRC expense.

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**PACIFIC GAS AND ELECTRIC COMPANY
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CUSTOMER CARE EXPENSE AND CAPITAL INFORMATION**

**TABLE 4-3
CUSTOMER CARE 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
10	HY	7,236	8,270	1,034	Increase due to higher than planned costs for gas service representatives performing gas preventive meter maintenance work.
11	IS	56,873	59,131	2,258	Increase due to overtime labor required to manually process bill corrections for customers that were switched over to default rates without proper notification due to the elimination of E7 and E8 rates.
12	IT	15,148	14,920	(228)	Immaterial variance.
13	IU	23,977	19,006	(4,971)	Decrease due to time spent by local customer service representatives for general support, cash receiving activities, and answering billing inquiries that were originally planned in MWC IU, but recorded in MWC EZ.
14	IV	19,008	16,832	(2,176)	Decrease due to: (1) lower labor and greater technology spend in IT to support small business customers, and (2) labor costs planned in MWC IV but recorded to MWC OM due to internal reorganization.
15	JV	10,655	10,688	33	Immaterial variance.
16	OM	9,629	11,171	1,543	Increase due to labor costs recorded to MWC OM but planned in MWC IV due to internal reorganization.
17	OS	7,067	7,641	574	Immaterial variance.
18	Total	<u>\$309,454</u>	<u>\$303,753</u>	<u>(\$5,701)</u>	

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**PACIFIC GAS AND ELECTRIC COMPANY
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CUSTOMER CARE EXPENSE AND CAPITAL INFORMATION**

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 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 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.

**PACIFIC GAS AND ELECTRIC COMPANY
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CUSTOMER CARE EXPENSE AND CAPITAL INFORMATION**

**TABLE 4-4
CUSTOMER CARE 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	05	\$906	\$235	(\$671)	Decrease due to fewer than planned tools purchased for field employees.
2	21	10,199	1,123	(9,076)	Decrease due to: (1) lower than planned spending on office equipment; (2) a budget transfer to Corporate Real Estate for costs associated with the Customer Service Office remodels; and (3) additional labor and material costs planned in MWC 21 for additional SmartMeter™ installations but recorded in MWCs 25 and 74.
3	23	7,700	107	(7,593)	Decrease due to a budget transfer from MWC 23 to Corporate Real Estate associated with the Customer Service Office remodels.
4	25	48,523	51,112	2,589	Increase due to higher than planned labor and electric meter purchases as a result of additional SmartMeter™ installations.
5	74	70,172	79,085	8,912	Increase due to: (1) additional aging gas meter replacement labor and material costs; and (2) higher than planned labor and gas module purchases as a result of additional SmartMeter™ installations.
6	2F	14,268	13,601	(667)	Immaterial variance.
7	Total	\$151,768	\$145,263	(\$6,505)	

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SECTION 5
Nuclear Generation
Detailed Variance Explanations

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 5-1
NUCLEAR GENERATION 2016 EXPENSE PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Support	AB	(\$0)	(\$106)	(\$106)
2	Manage Environmental Operations	AK	2,600	6,186	3,586
3	Manage DCPD Business	BP	16,267	14,471	(1,796)
4	DCPD Loss Prevention	BQ	43,958	46,358	2,400
5	Operate DCPD Plant	BR	71,141	68,372	(2,769)
6	Maintain DCPD Plant Assets	BS	102,867	109,869	7,002
7	Enhance DCPD Personnel Performance	BT	17,818	17,452	(366)
8	Procure DCPD Materials & Services	BU	(44)	291	335
9	Maintain DCPD Plant Configuration	BV	40,204	42,249	2,045
10	Manage Waste Disposal & Transportation	CR	0	5	5
11	Provide Nuclear Support	EO	210	(17)	(228)
12	Manage Various Balancing Acct Processes	IG	14,800	22,589	7,789
13	Maintain IT Apps & Infra	JV	1,555	472	(1,084)
14	Operational Management	OM	5,347	6,502	1,154
15	Operational Support	OS	17,078 ^(a)	16,987	(92)
16	Total		\$333,802	\$351,680	\$17,877

(a) The 2016 budget differs from the amount presented in the March 31, 2016 report due to an adjustment to move Nuclear Generation Business Finance support costs from Corporate Services to Nuclear Generation to be consistent with PG&E's 2014 GRC presentation.

**PACIFIC GAS AND ELECTRIC COMPANY
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NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 5-2
NUCLEAR GENERATION 2016 CAPITAL PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Office Furniture and Equipment	03	\$275	\$1,696	\$1,421
2	Fleet/Auto Equipment	04	1,046	4	(1,042)
3	Tools and Equipment	05	1,374	1,969	594
4	DCPP Capital Projects	20	181,405	178,746	(2,659)
5	Build IT Applications & Infrastructure	2F	7,069	3,642	(3,427)
6	Nuclear Safety and Security	3I	37,600	37,470	(130)
7	Total		\$228,769	\$223,526	(\$5,243)

**PACIFIC GAS AND ELECTRIC COMPANY
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NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION**

MWC Descriptions – Expense

MWC AB – Support – includes miscellaneous support cost 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 DCPD 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 – DCPD 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 DCPD 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 DCPD Plant Assets – includes all preventative and corrective maintenance activities for systems, structures, and components at the plant.

MWC BT – Enhance DCPD 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 DCPD Materials & Services – includes cost for under/over clearing of material burden.

MWC BV – Maintain DCPD 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.

**PACIFIC GAS AND ELECTRIC COMPANY
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NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION**

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. Examples include Business Finance and Sourcing that support the lines of business.

**PACIFIC GAS AND ELECTRIC COMPANY
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NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 5-3
NUCLEAR GENERATION 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	AB	(\$0)	(\$106)	(\$106)	Decrease due to various credits for fuel procurement costs.
2	AK	2,600	6,186	3,586	Increase primarily due to state water fees for mitigation of once-through cooling. These costs were planned in MWC BR but recorded to MWC AK, partially offset by hazardous waste transportation charges, which were planned in MWC AK but recorded in MWC CR.
3	BP	16,267	14,471	(1,796)	Decrease due to lower facility maintenance costs driven by lower rental costs, lower staffing, and a shift of support to capital facility improvements. Additionally, lower cost for fleet maintenance due to responsibility of fleet maintenance work being transferred to Shared Services. This was partially offset by additional expenses due to the canceled plant license extension capital project.
4	BQ	43,958	46,358	2,400	Increase primarily due to not achieving planned efficiencies in new work processes in site security functions. These efficiencies were expected to be driven by security infrastructure enhancements, which have been delayed.
5	BR	71,141	68,372	(2,769)	Decrease primarily due to state water fees for mitigation of once-through cooling. These costs were planned in MWC BR but recorded in MWC AK.
6	BS	102,867	109,869	7,002	Increase primarily due to higher maintenance costs than planned for the refueling outage. This was driven by higher than planned maintenance cost for the following: turbine generator, reactor coolant pump, gantry crane, meteorological tower, main steam safety valves, feed water heaters, circulating water tunnel cleaning, and scaffolding support.
7	BT	17,818	17,452	(366)	Immaterial variance.
8	BU	(44)	291	335	Increase due to higher material cost than planned.
9	BV	40,204	42,249	2,045	Increase primarily due to higher equipment inspection costs for the refueling outage. This was driven by emergent inspection of reactor vessel fuel guide cards and inspection and evaluation of residual heat removal hot-leg piping.
10	CR	0	5	5	Increase due to minor charges for hazardous waste transportation. These costs were planned in MWC AK.

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**PACIFIC GAS AND ELECTRIC COMPANY
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NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 5-3
NUCLEAR GENERATION 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
11	EO	210	(17)	(228)	Decrease primarily due to lower corporate support from Communications and credits from union-related reimbursable expenses.
12	IG	14,800	22,589	7,789	Increase due to cyber security scope increase. This was driven by further clarification of Nuclear Regulatory Commission regulatory requirements.
13	JV	1,555	472	(1,084)	Decrease primarily due to the rescheduling of a major radio replacement project (Replace Plant Radio System); the rescheduling of the Enterprise Shift Operations Management System Upgrade due to vendor software defects and the re-prioritization of the Warehouse B Redesign project to fund higher priority efforts. In addition, the Mobility Application solution was delivered under budget.
14	OM	5,347	6,502	1,154	Increase due to lower than planned operational management overhead allocations to capital and balancing account projects, which resulted in higher than planned actuals in MWC OM.
15	OS	17,078	16,987	(92)	Immaterial variance.
16	Total	\$333,802	\$351,680	\$17,877	

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**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION**

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 – DCPD 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 DCPD capital projects subject to the 2-way balancing account established for Nuclear Safety and Security regulatory-mandated projects.

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
NUCLEAR GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 5-4
NUCLEAR GENERATION 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	03	\$275	\$1,696	\$1,421	Increase due to various facility upgrades.
2	04	1,046	4	(1,042)	Decrease due to lower cost for fleet maintenance as a result of responsibility of fleet maintenance work being transferred to Shared Services.
3	05	1,374	1,969	594	Increase due to higher demand for tool replacements.
4	20	181,405	178,746	(2,659)	Decrease largely due to revised milestone payments to vendors for the Main Generator Stator project as a result of final contract negotiations.
5	2F	7,069	3,642	(3,427)	Decrease primarily due to the rescheduling of two major radio replacement projects (Replace Plant Radio System and Containment Radio System); the rescheduling of the Enterprise Shift Operations Management System Upgrade due to vendor software defects and the re-prioritization of the Warehouse B Redesign project to fund higher priority efforts.
6	3I	37,600	37,470	(130)	Immaterial variance.
7	Total	\$228,769	\$223,526	(\$5,243)	

SECTION 6
Power Generation
Detailed Variance Explanations

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
POWER GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 6-1
POWER GENERATION 2016 EXPENSE PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Business/Miscellaneous Expense (Hydro)	AB	\$1,664	\$5,430	\$3,767
2	Manage Environmental Operations (Hydro)	AK	1,143	938	(205)
3	Maintain Hydro Reservoirs, Dams & Waterways (Hydro)	AX	17,846	22,174	4,328
4	Habitat and Species Protection (Hydro)	AY	144	85	(59)
5	Perform Reimbursable Work for Others (Hydro)	BC	0	52	52
6	Manage Property & Buildings (Hydro)	EP	1,210	775	(435)
7	Implement Environment Projects (Hydro)	ES	623	476	(147)
8	Manage Var Balancing Account Processes (Hydro)	IG	844	6,978	6,134
9	Manage Environmental Remediation (Earning) (Hydro)	JK	65	0	(65)
10	Maintain IT Applications & Infrastructure (Hydro)	JV	0	194	194
11	Operate Hydro Electric Generation (Hydro)	KG	34,687	33,013	(1,674)
12	Maintain Hydro Electric Generating Equipment (Hydro)	KH	22,869	22,086	(783)
13	Maintain Hydro Electric Generation Buildings, Grounds & Infrastructure (Hydro)	KI	9,516	8,951	(565)
14	Regulatory Compliance Hydro Electric Generation (Hydro)	KJ	35,362	32,752	(2,610)
15	Operational Management (Hydro)	OM	3,756	3,029	(727)
16	Operational Support (Hydro)	OS	1,885 ^(a)	2,064	179
17	Business/Miscellaneous Expense (Fossil)	AB	35	167	132
18	Manage Environmental Operations (Fossil)	AK	2,478	2,289	(189)
19	Operate Fossil Generation (Fossil)	KK	12,484	12,675	191
20	Maintain Fossil Generating Equipment (Fossil)	KL	42,502	43,624	1,122
21	Maintain Fossil Generation Buildings, Grounds & Infrastructure (Fossil)	KM	2,641	2,166	(475)
22	Operate Alternative Generation (Fossil)	KQ	306	430	124
23	Maintain Alternative Generation Generating Equipment (Fossil)	KR	920	643	(277)
24	Maintain Alternative Generation Building, Ground, Infrastructure (Fossil)	KS	24	83	59
25	Operational Management (Fossil)	OM	300	391	91
26	Operational Support (Fossil)	OS	1,010 ^(a)	476	(534)
27	Total		\$194,314	\$201,940	\$7,626

(a) The 2016 budget differs from the amount presented in the March 31, 2016 report due to an adjustment to move Power Generation Business Finance support costs from Corporate Services to Power Generation to be consistent with PG&E's 2014 GRC presentation.

**PACIFIC GAS AND ELECTRIC COMPANY
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POWER GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 6-2
POWER GENERATION 2016 CAPITAL PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	IT – Desktop Computers (Hydro)	01	\$0	\$13	\$13
2	Office Furniture & Equipment (Hydro)	03	404	8	(396)
3	Tools & Equipment (Hydro)	05	1,112	971	(141)
4	Relicensing Hydro Generation (Hydro)	11	3,604	2,467	(1,137)
5	Implement Environment Projects (Hydro)	12	3,154	2,292	(862)
6	Build IT Applications & Infrastructure (Hydro)	2F	5,372	6,799	1,427
7	Install/Replace for Hydro Generation Safety & Regulatory Requirements (Hydro)	2L	48,231	40,148	(8,083)
8	Install/Replace Hydro Generating Equipment (Hydro)	2M	116,252	109,942	(6,310)
9	Install/Replace Reservoirs, Dams & Waterways (Hydro)	2N	76,232	55,797	(20,435)
10	Install/Replace Hydro Generation Buildings, Grounds & Infrastructure (Hydro)	2P	23,970	23,465	(505)
11	Hydro Elec License & License Conditions (Hydro)	3H	20,997	20,573	(424)
12	Tools & Equipment (Fossil)	05	334	359	25
13	Build IT Applications & Infrastructure (Fossil)	2F	583	235	(347)
14	Install/Replace Fossil Generating Safety & Regulatory Requirements (Fossil)	2R	2,772	2,664	(108)
15	Install/Replace Fossil Generating Equipment (Fossil)	2S	5,814	9,771	3,957
16	Install/Replace Fossil Generation Buildings, Grounds & Infrastructure (Fossil)	2T	188	795	608
17	Install/Replace Alternative Generation Safety and Regulation (Fossil)	3A	20	17	(3)
18	Install/Replace Alternative Generation Equipment (Fossil)	3B	16	12	(4)
19	Total		\$309,053	\$276,326	(\$32,726)

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**PACIFIC GAS AND ELECTRIC COMPANY
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POWER GENERATION EXPENSE AND CAPITAL INFORMATION**

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.

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.

**PACIFIC GAS AND ELECTRIC COMPANY
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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. Examples include Business Finance and Sourcing that support the lines of business.

**PACIFIC GAS AND ELECTRIC COMPANY
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POWER GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 6-3
POWER GENERATION 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	AB (Hydro)	\$1,664	\$5,430	\$3,767	Increase due to Power Generation efficiencies that were planned in MWC AB but realized and recorded primarily in MWCs KI and KH, unplanned lodging and meal costs at Balch and Helms, and a re-categorization of Hydro Powerhouse Disposition work from MWC EP.
2	AK (Hydro)	1,143	938	(205)	Decrease due to lower than planned environmental work throughout the Hydro Areas.
3	AX	17,846	22,174	4,328	Increase due to: (1) unplanned/incremental work at DeSabra Hydro Area, including tunnel repair and rock trap cleaning at Poe, and Lime Saddle fire response and penstock damage assessment and repair; (2) unplanned/incremental work at Central Hydro Area, including patching work at Spaulding Dam and additional dive and debris removal at Tiger Creek Afterbay low level outlet; and (3) greater than planned inspections and evaluations performed under the Asset Management penstock program.
4	AY	144	85	(59)	Decrease primarily due to lower than planned Valley Elderberry Longhorn Beetle permit costs.
5	BC	0	52	52	Increase due to timing of reimbursement on work performed, primarily at Grizzly Powerhouse.
6	EP	1,210	775	(435)	Decrease primarily due to re-categorization of Hydro Powerhouse Disposition costs to MWC AB and lower than planned expenditures on DeSabra Hydro Area Land Rights Management.
7	ES	623	476	(147)	Decrease due to lower than planned monitoring/mitigation support at Crane Valley Dam as a result of a mild winter and lower than planned Asset Management expenditures.
8	IG	844	6,978	6,134	Increase due to unplanned hazardous drought/bark beetle-related tree removal.
9	JK	65	0	(65)	Decrease due to budget transfer of Centerville Butte Creek Bank Evaluation funds to MWC KJ.
10	JV	0	194	194	Increase primarily due to projects originally planned as capital but recorded as expense because the work was not related to the installation or deployment of an asset.

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**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
POWER GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 6-3
POWER GENERATION 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
11	KG	34,687	33,013	(1,674)	Decrease primarily due to lower than planned volume of Corrective Action Program submittals requiring lower than planned labor and lower than planned hiring of Hydro Operators in Training.
12	KH	22,869	22,086	(783)	Immaterial variance.
13	KI	9,516	8,951	(565)	Immaterial variance.
14	KJ	35,362	32,752	(2,610)	Decrease primarily due to United States Forest Service requested delay in Crane Valley Recreation Settlement Agreement efforts until 2017, postponing of Relief Reach Riparian Vegetation Restoration construction work until 2017, lower than planned costs for Hydro License Compliance, especially in Shasta Hydro Area, and the transfer of budget for the Centerville Butte Creek Bank Evaluation from MWC JK.
15	OM (Hydro)	3,756	3,029	(727)	Decrease due to lower than planned allocations of hydro supervision and management costs to capital projects.
16	OS (Hydro)	1,885	2,064	179	Immaterial variance.
17	AB (Fossil)	35	167	132	Increase due to higher than planned probability risk assessment costs.
18	AK (Fossil)	2,478	2,289	(189)	Immaterial variance.
19	KK	12,484	12,675	191	Immaterial variance.
20	KL	42,502	43,624	1,122	Increase primarily due to: (1) outage extension at Gateway Generating Station brought about by greater than expected deteriorated as-found conditions;(2) re-categorization of costs planned under MWC KM, including installation of an auxiliary Guard Shack and updates to the contractor entrance at Gateway Generating Station; and (3) unplanned engine repairs at Humboldt Bay Generating Station, which were partially funded by reprioritized budget from MWC KR.
21	KM	2,641	2,166	(475)	Decrease primarily due to transfer of budget to fund efforts under MWCs KK, including janitorial services, and KL, including installation of an auxiliary Guard Shack and updates to the contractor entrance at Gateway Generating Station.

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**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
POWER GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 6-3
POWER GENERATION 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
22	KQ	306	430	124	Increase due to timing of Fuel Cell service agreement costs originally planned for in 2015 but actual costs incurred in 2016, partially funded by reprioritized budget from MWC KR.
23	KR	920	643	(277)	Decrease due to reprioritization of funds to Fuel Cell needs in MWCs KQ and to MWC KL for unplanned engine repairs at Humboldt Bay Generation Station.
24	KS	24	83	59	Increase due to higher than planned expenditures at Vaca-Dixon solar facility, including unplanned storage area costs required for panel and other equipment storage.
25	OM (Fossil)	300	391	91	Increase due to higher than planned Fossil/Solar labor and employee-related costs.
26	OS (Fossil)	1,010	476	(534)	Decrease due to higher than planned allocations of Fossil/Solar support service costs to capital projects.
27	Total	\$194,314	\$201,940	\$7,626	

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**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
POWER GENERATION EXPENSE AND CAPITAL INFORMATION**

MWC Descriptions – Capital

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

MWC 05 – Tools & Equipment – includes purchase of tools and equipment required to perform various functions to maintain the safety and reliability of fossil and hydro electric generation operations.

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.

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
POWER GENERATION EXPENSE AND CAPITAL INFORMATION**

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; 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.

New MWC Descriptions – Capital

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

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
POWER GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 6-4
POWER GENERATION 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	01	\$0	\$13	\$13	Increase due to unplanned purchase of non-standard equipment required for Western Electricity Coordinating Council testing and data submission.
2	03	404	8	(396)	Decrease due to delay required by re-scoping of Fresno Operations Center console replacement project.
3	05 (Hydro)	1,112	971	(141)	Decrease due to reduced need for new tools for the Hydro Operations, Maintenance, and Construction crews.
4	11	3,604	2,467	(1,137)	Decrease due to unplanned capital efficiency on the Spring Gap Stanislaus Stream Flow Modifications License Condition project.
5	12	3,154	2,292	(862)	Decrease due to reprioritization to support incremental Haas Unit 2 governor work in MWC 2M.
6	2F (Hydro)	5,372	6,799	1,427	Increase primarily due to: (1) higher than planned third-party vendor costs for telecommunications infrastructure work in the Watershed Infrastructure program and (2) higher than planned costs for the Linear Asset Management project due to a pending interface with mobile functionality and delays in fully implementing the Asset Risk Management database caused by a lag in data population. The increase is partially offset by several cybersecurity mitigation projects that were completed below budget because the specific mitigations delivered were planned at a higher level at the beginning of the year and the software component of the deployment strategy was procured at a lower cost.
7	2L	48,231	40,148	(8,083)	Decrease primarily due to delay 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 DeSabra Butte 3/6A Spillway Improvements project, and certification issues on California Independent System Operator (CAISO) replacement meters.
8	2M	116,252	109,942	(6,310)	Decrease due to higher than planned capital efficiency and delay in material delivery associated with the Pit 5 transformer replacement project.
9	2N	76,232	55,797	(20,435)	Decrease due to permit delays, weather delays, alternative analysis that resulted in re-scheduling of work into 2017, and unplanned capital efficiencies.
10	2P	23,970	23,465	(505)	Immaterial variance.

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**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
POWER GENERATION EXPENSE AND CAPITAL INFORMATION**

**TABLE 6-4
POWER GENERATION 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
11	3H	20,997	20,573	(424)	Immaterial variance.
12	05 (Fossil)	334	359	25	Immaterial variance.
13	2F (Fossil)	583	235	(347)	Decrease primarily due to several cybersecurity mitigation projects that were completed below budget because the specific mitigations delivered were planned at a higher level at the beginning of the year and the software component of the deployment strategy was procured at a lower cost.
14	2R	2,772	2,664	(108)	Immaterial variance.
15	2S	5,814	9,771	3,957	Increase due to more deteriorated than expected as found conditions during the Gateway major outage requiring unplanned Turbine Blade replacement.
16	2T	188	795	608	Increase due to acceleration of warehouse upgrades from 2017 to 2016.
17	3A	20	17	(3)	Decrease due to lower than planned costs for Inverter Enclosures at multiple Solar Stations.
18	3B	16	12	(4)	Decrease due to lower than planned Solar Module replacements, lower than planned costs on the Monitoring and Control System, and an early payment discount for San Francisco State Fuel Cell earned in 2015, but not recorded until 2016.
19	Total	\$309,053	\$276,326	(\$32,726)	

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SECTION 7
Energy Policy & Procurement
Detailed Variance Explanations

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
ENERGY POLICY & PROCUREMENT EXPENSE AND CAPITAL INFORMATION**

**TABLE 7-1
ENERGY POLICY & PROCUREMENT 2016 EXPENSE PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Support	AB	\$1,055	\$950	(\$106)
2	Maintain Buildings	BI	48	17	(30)
3	Acquire and Manage Electric Supply	CT	37,444	35,396	(2,048)
4	Gas Procurement	CV	3,053	3,174	121
5	Manage Electric Grid Operations	CY	0	1,141	1,141
6	Maintain IT Applications & Infrastructure	JV	1,008	691	(318)
7	Total		\$42,608	\$41,368	(\$1,241)

**TABLE 7-2
ENERGY POLICY & PROCUREMENT 2016 CAPITAL PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Build IT Applications & Infrastructure	2F	\$12,024	\$11,498	(\$527)
2	Total		\$12,024	\$11,498	(\$527)

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
ENERGY POLICY & PROCUREMENT EXPENSE AND CAPITAL INFORMATION**

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

New MWC Descriptions – Expense

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.

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
ENERGY POLICY & PROCUREMENT EXPENSE AND CAPITAL INFORMATION**

**TABLE 7-3
ENERGY POLICY & PROCUREMENT 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	AB	\$1,055	\$950	(\$106)	Decrease due to lower than planned supervision and management costs.
2	BI	48	17	(30)	Decrease due to lower than planned building maintenance spend.
3	CT	37,444	35,396	(2,048)	Decrease due to labor costs for the new Grid Integration & Innovation group being planned in MWC CT but recorded in MWC CY, higher than expected vacancies, and lower than expected Competitive Solicitations project spend.
4	CV	3,053	3,174	121	Immaterial variance.
5	CY	0	1,141	1,141	Increase due to higher labor than planned as Grid Integration & Innovation was a new group formed in October 2016. Costs of the employees were originally planned in MWC CT.
6	JV	1,008	691	(318)	Decrease primarily due to delayed requirements from California Independent System Operator (CAISO) and less expense work than planned in the CAISO Markets and Performance Initiative program.
7	Total	\$42,608	\$41,368	(\$1,241)	

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**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
ENERGY POLICY & PROCUREMENT EXPENSE AND CAPITAL INFORMATION**

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
2014 GENERAL RATE CASE APPLICATION 12-11-009
ENERGY POLICY & PROCUREMENT EXPENSE AND CAPITAL INFORMATION**

**TABLE 7-4
ENERGY POLICY & PROCUREMENT 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	2F	\$12,024	\$11,498	(\$527)	Immaterial variance.
2	Total	\$12,024	\$11,498	(\$527)	

SECTION 8
Information Technology
Detailed Variance Explanations

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION**

**TABLE 8-1
INFORMATION TECHNOLOGY 2016 EXPENSE PROGRAMS COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	Program	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Baseline	JV ^(a)	\$292,102	\$295,613	\$3,511
2	Lifecycle	JV	2,003	1,235	(768)
3	Continuous Improvement	JV	34	5	(29)
4	Technology Reliability Projects	JV ^(b)	12,518	13,262	744
5	Operational Management	OM	2,036	4,475	2,439
6	Operational Support	OS	(2,199)	(2,159)	\$40
7	Total		\$306,495 ^(c)	\$312,432	\$5,937
8	Chargeback Allocations to Capital		(\$35,718)	(\$43,510)	(\$7,793)
9	Total Net of Chargeback Allocation to Capital		\$270,777	\$268,921	(\$1,856)

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.
- (c) The 2016 budget differs from the amount presented in the March 31, 2016 report to align Enterprise Records Information Management costs from Shared Services to IT to be consistent with PG&E's 2014 GRC presentation.

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION**

**TABLE 8-2
INFORMATION TECHNOLOGY 2016 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	Program	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Lifecycle	2F	\$39,197	\$52,275	\$13,078
2	Continuous Improvement	2F	3,122	4,379	1,257
3	Technology Reliability Projects	2F ^(a)	110,919	94,815	(16,105)
4	Total		\$153,238 ^(b)	\$151,468	(\$1,770)

Note:

- (a) Technology Reliability Projects include IT Tech Projects.
- (b) The 2016 budget differs from the amount presented in the March 31, 2016 report to align Enterprise Corrective Action Program and Enterprise Records Information Management costs from Gas Distribution to IT to be consistent with PG&E's 2014 GRC presentation.

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION**

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. Examples include Business Finance and Sourcing that support the lines of business.

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION**

**TABLE 8-3
INFORMATION TECHNOLOGY 2015 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	Program	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	Baseline	JV	\$292,102	\$295,613	\$3,511	Increase primarily due to centralizing End User Services costs (formerly known as device fee chargebacks) due to the implementation of a new cost model allocation methodology. This increase is compounded by higher than planned application support in Business Technology specifically focused on: (1) Geographic Information Systems support for Gas and Electric, (2) Mobile Technology, and (3) Business Technology Affordability Initiatives. The increase is partially offset by efficiencies gained in Information and Operations vendor contract negotiations.
2	Lifecycle	JV	2,003	1,235	(768)	Decrease primarily due to less expense work than planned on Datacenter Technologies project solutions. This decrease is partially offset by an increase in Network Technologies projects, specifically efforts on Wireless and Wide Area Network solutions.
3	Continuous Improvement	JV	34	5	(29)	Decrease due to a resequencing of new projects to enable higher priority work, coupled with lower implementation costs for completing 2016 projects.
4	Technology Reliability Projects	JV	12,518	13,262	744	Immaterial variance.
5	Operational Management	OM	2,036	4,475	2,439	Increase primarily due to unplanned University Program (a college management recruitment initiative for IT professionals) and cyber security management costs.
6	Operational Support	OS	(2,199)	(2,159)	40	Immaterial variance.
7	Total		<u>\$306,495</u>	<u>\$312,432</u>	<u>\$5,937</u>	

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**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION**

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
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INFORMATION TECHNOLOGY EXPENSE AND CAPITAL INFORMATION**

**TABLE 8-4
INFORMATION TECHNOLOGY 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	Program	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	Lifecycle	2F	\$39,197	\$52,275	\$13,078	Increase due to focused efforts on projects in the network technologies asset class to address increased need for network solutions within the company, specifically investments related to Wide Area Network and Network transport assets. The increase also reflects higher than planned storage purchases in Datacenter Technologies to address the demand for big data. Finally, the addition of the Security asset replacement program contributed to the overrun.
2	Continuous Improvement	2F	3,122	4,379	1,257	Increase primarily driven by the Hewlett Packard Operations Manager Agent Rollout effort which adds functionality to infrastructure asset health and monitoring.
3	Technology Reliability Projects	2F	110,919	94,815	(16,105)	Decrease primarily driven by a delay in the Field Area Network strategy to better assess line of business requirements. This decrease also reflects: (1) successful contract negotiations which resulted in better software Enterprise License Agreement pricing; and (2) Disaster Recovery implementation costs coming in lower than planned.
4	Total		<u>\$153,238</u>	<u>\$151,468</u>	<u>(\$1,770)</u>	

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SECTION 9
Shared Services
Detailed Variance Explanations

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
SHARED SERVICES EXPENSE AND CAPITAL INFORMATION**

**TABLE 9-1
SHARED SERVICES 2016 EXPENSE COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Support	AB	\$213,570 ^(a)	\$215,919	\$2,349
2	Manage Environmental Operations	AK	10,387	6,722	(3,665)
3	Habitat and Species Protection	AY	258	233	(25)
4	Maintain Buildings	BI	7,302	4,607	(2,696)
5	Manage DCPD Business	BP	2,734	3,170	436
6	Manage Waste Disposal & Transportation	CR	2,470	1,976	(494)
7	Manage Property & Buildings	EP	128,281 ^(a)	127,828	(453)
8	Implement Environmental Projects	ES	905	551	(354)
9	Special A&G/Other Costs-Budget Department Safety Engineering & OSHA Compliance	FA/FL	20,327	24,440	4,112
10	Manage Land Services	JE	1,901	4,194	2,293
11	Implement Real Estate Strategy	JH	6,050	11,085	5,035
12	Manage Environmental Remediation-Earnings	JK	4,897	3,912	(985)
13	Procure Materials & Services	JL	16,780	20,003	3,223
14	Maintain IT Applications & Infrastructure	JV	6,903 ^(b)	4,865	(2,038)
15	Provide Human Resource Services	KX	6,785 ^(c)	6,198	(587)
16	Operational Management	OM	448	423	(25)
17	Operational Support	OS	11,601	10,549	(1,052)
18	Corporate Items	ZC	0	443	443
19	Total		\$441,598	\$447,116	\$5,518
20	Chargeback Allocations to Capital		(205,594)	(209,884)	(4,290)
21	Total Net of Chargeback Allocations to Capital		236,004	237,232	1,228

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.
- (b) The 2016 budget differs from the amount presented in the March 31, 2016 report to align Enterprise Records Information Management costs from Shared Services to IT to be consistent with PG&E's 2014 GRC presentation. Additionally, cost for Onsite Clinics were moved from Human Resources to Shared Services.
- (c) Integrated Disability Management (IDM) costs were moved from Corporate Services to Shared Services consistent with the current reporting structure.

**PACIFIC GAS AND ELECTRIC COMPANY
2014 GENERAL RATE CASE APPLICATION 12-11-009
SHARED SERVICES EXPENSE AND CAPITAL INFORMATION**

**TABLE 9-2
SHARED SERVICE 2016 CAPITAL COMPARISON SUMMARY
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC Description	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)
1	Fleet/Automotive Equipment	04	\$212,927	\$213,215	\$288
2	Tools & Equipment	05	1,663	2,752	1,089
3	Implement Environment Projects	12	7,923	4,531	(3,392)
4	Purchase/Install – Other Capital	21	480	710	230
5	Maintain Buildings	22	71,016	46,673	(24,344)
6	Implement Real Estate Strategy	23	89,704	91,381	1,677
7	EV – Station Infrastructure	28	2,980	3,349	369
8	Build IT Applications & Infrastructure	2F	7,810	9,290	1,480
9	Total		\$394,503	\$371,899	(\$22,604)

**PACIFIC GAS AND ELECTRIC COMPANY
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SHARED SERVICES EXPENSE AND CAPITAL INFORMATION**

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 organizations¹ 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 DCPD 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 EP – Manage Property and Buildings – includes costs to operate, maintain, and repair PG&E’s facilities and shared conference center space.

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

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

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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.

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 – 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. Examples include Business Finance and Sourcing that support the lines of business.

New MWC Descriptions - Expense

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

MWC ZC - Corporate Items - MWC ZC in Shared Services includes cost of Integrated Disability Management work.

**PACIFIC GAS AND ELECTRIC COMPANY
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SHARED SERVICES EXPENSE AND CAPITAL INFORMATION**

**TABLE 9-3
SHARED SERVICES 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	AB	\$213,570	\$215,919	\$2,349	Increase due to higher than planned vehicle rentals across the enterprise.
2	AK	10,387	6,722	(3,665)	Decrease due to Environmental contract cost that was planned in MWC AK, but recorded in MWC JE. Remaining variance was also planned in MWC AK but recorded in MWCs AB/FA/FL to fund other work within the Safety, Health, and Environment Organization.
3	AY	258	233	(25)	Immaterial variance.
4	BI	7,302	4,607	(2,696)	Decrease due to extension of the timeline for the General Office - Exterior Restoration project.
5	BP	2,734	3,170	436	Increase due to additional charter flights.
6	CR	2,470	1,976	(494)	Decrease due to less than planned hazardous waste disposal cost.
7	EP	128,281	127,828	(453)	Immaterial variance.
8	ES	905	551	(354)	Decrease due to less than planned environmental projects.
9	FA/FL	20,327	24,440	4,112	Increase due to Safety Planning and Governance Department originally budgeted under MWC AB and increase in Safety Culture and Safety OII related contract and consulting costs.
10	JE	1,901	4,194	2,293	Increase due to unplanned request for additional tree removal funding and environmental contract cost that was planned in AK but recorded in JE. The tree removal request was made due to effects of the continued drought conditions.
11	JH	6,050	11,085	5,035	Increase due to unplanned work for the 77 Beale remodeling and ETI – Trailer Upgrade Program projects.
12	JK	4,897	3,912	(985)	Decrease due to less than budgeted internal legal support and contracting for land disposition.
13	JL	16,780	20,003	3,223	Increase due to higher costs that could not be allocated out due to lower than expected consumption of materials.

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**PACIFIC GAS AND ELECTRIC COMPANY
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SHARED SERVICES EXPENSE AND CAPITAL INFORMATION**

**TABLE 9-3
SHARED SERVICES 2016 EXPENSE COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)
(CONTINUED)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
14	JV	6,903	4,865	(2,038)	Decrease largely due to continued delays on the CRESS Application Rationalization project and the final rollout phase of the Supplier Relationship Management (SRM) Technical/Functional Upgrade project. Additionally, the Serious Injury & Fatality (SIF) and the Safety and Environmental Management System (SEMS) Safety Release 6 Electric Operations Event Reporting efforts were delayed and then consolidated to better optimize solution delivery.
15	KX	6,785	6,198	(587)	Immaterial variance.
16	OM	448	423	(25)	Immaterial variance.
17	OS	11,601	10,549	(1,052)	Decrease primarily due to vacancies.
18	ZC	0	443	443	Increase due to staff augmentation for the Time off Redesign Program which was originally planned as a company-wide expense instead of in Shared Services' budget.
19	Total	<u>\$441,598</u>	<u>\$447,116</u>	<u>\$5,518</u>	

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**PACIFIC GAS AND ELECTRIC COMPANY
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SHARED SERVICES EXPENSE AND CAPITAL INFORMATION**

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.

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**TABLE 9-4
SHARED SERVICES 2016 CAPITAL COMPARISON
(THOUSANDS OF NOMINAL DOLLARS)**

Line No.	MWC	2016 Budget	2016 Actual	2016 Difference Higher/(Lower)	Explanation
1	04	\$212,927	\$213,215	\$288	Immaterial variance.
2	05	1,663	2,752	1,089	Increase due to the unplanned purchase of additional Fleet equipment for Electric Ops.
3	12	7,923	4,531	(3,392)	Decrease due to less than planned Environmental improvement and treated wood disposal projects required, as well as delay in obtaining the Bay Area Habitat Conservation Plan permit from the U.S. Fish and Wildlife Services.
4	21	480	710	230	Increase due to higher than planned engine part purchases required for fixed wing aircraft.
5	22	71,016	46,673	(24,344)	Decrease due to extending the project timeline of 77 Beale-Electric Distribution System projects.
6	23	89,704	91,381	1,677	Increase due to the unplanned work associated with the General Office Wellness center, as well as a project transferred from MWC 23 in Customer Care to CRESS for Customer Service Office remodels.
7	28	2,980	3,349	369	Increase due to additional electrical vehicle charging infrastructure purchases.
8	2F	7,810	9,290	1,480	Increase largely driven by a shift in the implementation strategy for the final rollout phase of the SRM Technical/Functional Upgrade project (internally named "OASIS"); although the OASIS project was largely implemented as an expense solution, there were capital components in the delivery of the solution that were identified later in project execution.
9	Total	\$394,503	\$371,899	(\$22,604)	

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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 2014 GRC.

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

All Lines of Business					
Prior MWC (used in the 2014 GRC)	Prior MWC Description	New MWC	New MWC Description	Comment	Period of Update
	Supervision and Management Costs Previously Recorded in Multiple MWCs	OM	Operational Management	New MWC OM is created to record spending for labor and employee-related costs to provide supervision and management support under PG&E's new cost model, which became effective in 2016	March 2016 Budget Report
	Support Costs Previously Recorded in Multiple MWCs	OS	Operational Support	New MWC OS is 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 model, which became effective in 2016	March 2016 Budget Report

Gas Distribution					
Prior MWC (used in the 2014 GRC)	Prior MWC Description	New MWC	New MWC Description	Comment	Period of Update
AB	Support	DN	Develop and Provide Training	MWC DN is used to record spending for development of training material	March 2016 Budget Report
DE, FI	Leak Survey, Leak Repair	JU	Gas Distribution Leak Survey & Repair	MWC JU is created to record spending above the cost cap level for the Gas Leak Survey and Repair Balancing Account	March 2015 Budget Report
	Presented in Corporate Services in the 2014 GRC	KT	Provide Executive Services	MWC KT is used to record costs related to the Utility presidents	March 2016 Budget Report

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

Electric Distribution					
Prior MWC (used in the 2014 GRC)	Prior MWC Description	New MWC	New MWC Description	Comment	Period of Update
78	Manage Buildings	23	Implement Real Estate Strategy	MWC 23 is used to record spending for real estate related costs	March 2016 Budget Report
Presented in Corporate Services in the 2014 GRC		KT	Provide Executive Services	MWC KT is used to record costs related to the Utility presidents	March 2016 Budget Report
<i>None. Cost was not forecasted in 2014 GRC</i>		BC	<i>Perform Reimbursable Work for Others</i>	<i>MWC BC is used to record costs and reimbursable revenue associated with mutual assistance support to other utilities</i>	<i>March 2017 Budget Report</i>
<i>Presented in MWC FZ for 2014 GRC (partial transfer to MWC CY)</i>		CY	<i>Manage Electric Grid Ops</i>	<i>Transfer of funding related to creation of the new Grid Integration and Innovation group</i>	<i>March 2017 Budget Report</i>

Customer Care					
Prior MWC (used in the 2014 GRC)	Prior MWC Description	New MWC	New MWC Description	Comment	Period of Update
<i>Presented in MWCs EZ, GM and IV for 2014 GRC (partial transfer to CY)</i>		CY	<i>Manage Electric Grid Ops</i>	<i>Transfer of funding related to creation of the new Grid Integration and Innovation group</i>	<i>March 2017 Budget Report</i>

Nuclear Generation					
Prior MWC (used in the 2014 GRC)	Prior MWC Description	New MWC	New MWC Description	Comment	Period of Update
Presented in MWC 20 for 2014 GRC (partial transfer to 3I)		3I	Nuclear Safety	Transfer of funding related to Nuclear Safety balancing account work	March 2015 Budget Report
Presented in MWC BS for 2014 GRC (partial transfer to IG)		IG	Manage Various Balancing Account Processes	Transfer of funding related to Nuclear Safety balancing account work	March 2015 Budget Report

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

Power Generation					
Prior MWC (used in the 2014 GRC)	Prior MWC Description	New MWC	New MWC Description	Comment	Period of Update
2F	Build Applications and Infrastructure	3C	Install/Replace Alternative Generation Buildings, Grounds & Infrastructure	New MWC 3C is created for new Alternative Generation activities	March 2015 Budget Report
96	Separately Funded Capital	3D	Construct New Alternative Generation	New MWC 3D is created for new Alternative Generation activities	March 2015 Budget Report
Presented in MWC 11 for 2014 GRC (partial transfer to 3H)		3H	Hydro Electric License & Licensing Conditions	Transfer of funding related to Hydro Relicensing balancing account work	March 2015 Budget Report
Presented in MWC KG for 2014 GRC (partial transfer to IG)		IG	Manage Various Balancing Account Processes	Transfer of funding related to Hydro Relicensing balancing account work	March 2015 Budget Report
<i>None. Cost was not forecasted in 2014 GRC</i>		01	<i>IT Computing Equipment</i>	<i>MWC 01 is used to record spending for costs related to replacing computing equipment</i>	<i>March 2017 Budget Report</i>

Energy Policy & Procurement					
Prior MWC (used in the 2014 GRC)	Prior MWC Description	New MWC	New MWC Description	Comment	Period of Update
<i>Presented in MWC CT for 2014 GRC (partial transfer to CY)</i>		CY	<i>Manage Electric Grid Ops</i>	<i>Transfer of funding related to creation of the new Grid Integration and Innovation group</i>	<i>March 2017 Budget Report</i>

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

Shared Services					
Prior MWC (used in the 2014 GRC)	Prior MWC Description	New MWC	New MWC Description	Comment	Period of Update
	Presented in Nuclear MWC BP for 2014 GRC	BP	Manage DCPD Business	MWC BP is used to record spending for costs related to aircraft services that have been moved from the Nuclear Generation line of business	March 2015 Budget Report
	Chargeback costs previously recorded in multiple MWCs	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 model, which became effective in 2016	March 2015 Budget Report
	<i>Previously presented in Corporate Services</i>	KX	<i>Provide Human Resource Services</i>	<i>Safety-related HR Services activities moved to the Safety and Shared Services organization</i>	<i>March 2017 Budget Report</i>
	<i>Previously presented in Corporate Services</i>	ZC	<i>Corporate Items</i>	<i>Cost of Integrated Disability Management work moved to the Safety and Shared Services organization</i>	<i>March 2017 Budget Report</i>