Company: San Diego Gas & Electric Company (U 902 M)
Proceeding: 2019 General Rate Case
Application: A.17-10-___
Exhibit: SDG&E-18

SDG&E

DIRECT TESTIMONY OF JERRY D. STEWART

(CUSTOMER SERVICE OFFICE OPERATIONS)

October 6, 2017

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

317130

TABLE OF CONTENTS

LIST OF APPENDIX

SUMMARY

TY 2019 Summary of Total O&M Costs

CS - OFFICE OPERATIONS (In 2016 $)			
	2016 Adjusted-Recorded (000s)	**TY 2019 Estimated (000s)**	**Change (000s)**
Total Non-Shared Services	36,818	44,319	7,501
Total O&M	**36,818**	**44,319**	**7,501**

TY 2019 Summary of Total Capital IT Costs

INFO TECH/TELECOM CAPITAL			
(In 2016$)			
Categories of Management	**Estimated 2017 (000s)**	**Estimated 2018 (000s)**	**Estimated TY 2019**
CS – Office Operations	**14,897**	**15,774**	**16,332**

Summary of Requests

San Diego Gas & Electric Company's (SDG&E) Customer Service Office Operations is requesting $7.501 million over 2016 adjusted recorded. This request represents a 20% change between the base year (BY) 2016 adjusted recorded and the test year (TY) 2019 General Rate Case (GRC) request. This increase is primarily attributable to supporting customer growth, an increase in interval billed accounts, upcoming residential time of use mass default, and upgrading our technology and response systems so we can meet our customers' needs quickly and efficiently.

The associated resources will allow us to provide customers with Advanced Meter Operations, Billing, Credit and Collections, Remittance Processing, Postage, Branch Offices, Customer Contact Center, Customer Operations Support and Projects among other services. SDG&E's request reflects the effects of the following:

- Support for growth in interval billed accounts
- System enhancements to business applications and operational support
- Maintenance and growth of Net Energy Metering (NEM)
- Maintenance and growth of Smart Pricing rates
- Residential rate reform and transitioning residential customers to time-of-use pricing plans

- Operational efficiency projects
- Risk Assessment Mitigation Phase (RAMP) activities

SDG&E has aligned the above activities to create an organization focused on partnering with our customers as a trusted energy advisor by ensuring convenient, responsive, efficient, reliable and safe customer service. Implementation of these activities will allow SDG&E to continue controlling costs while delivering customer service in a safe, efficient, effective and reliable manner.

I chose a base year forecast method for Customer Service Office Operations. For the various reasons described in my testimony, a base year forecast represents an appropriate starting point to calculate TY 2019 operations and maintenance expenses for the activities listed above. My testimony also includes a request for funding an uncollectible rate based on a ten-year average.

In addition to sponsoring my own organization's costs, my testimony also supports the business justification for Information Technology (IT) capital costs for Customer Service Office Operations projects that are sponsored by SDG&E witness Christopher Olmsted (Exhibit SDG&E-24). I also sponsor the reasonableness of costs recorded in the Residential Disconnect Memorandum Account, cost recovery of which is sponsored by SDG&E witness Norma Jasso, (Exhibit SDG&E-41).

SDG&E DIRECT TESTIMONY OF JERRY D. STEWART
(CUSTOMER SERVICE OFFICE OPERATIONS)

I. INTRODUCTION

A. Summary of Customer Service Office Operations Costs and Activities

My testimony supports the TY 2019 forecasts for operations and maintenance (O&M) costs for non-shared services, the proposed uncollectible rate, and business justification for IT capital projects for the forecast years 2017, 2018, and 2019, associated with the Customer Service Office Operations area of SDG&E. Table JS-1 summarizes my sponsored O&M costs and Table JS-2 summarizes the IT capital project costs for which I sponsor the business justification.

TABLE JS-1
TY 2019 Summary of Total O&M Costs

CS - OFFICE OPERATIONS (In 2016 $)			
	2016 Adjusted-Recorded (000s)	**TY 2019 Estimated (000s)**	**Change (000s)**
Total Non-Shared Services	36,818	44,319	7,501
Total O&M	**36,818**	**44,319**	**7,501**

TABLE JS-2
TY 2019 Summary of Total Capital IT Costs

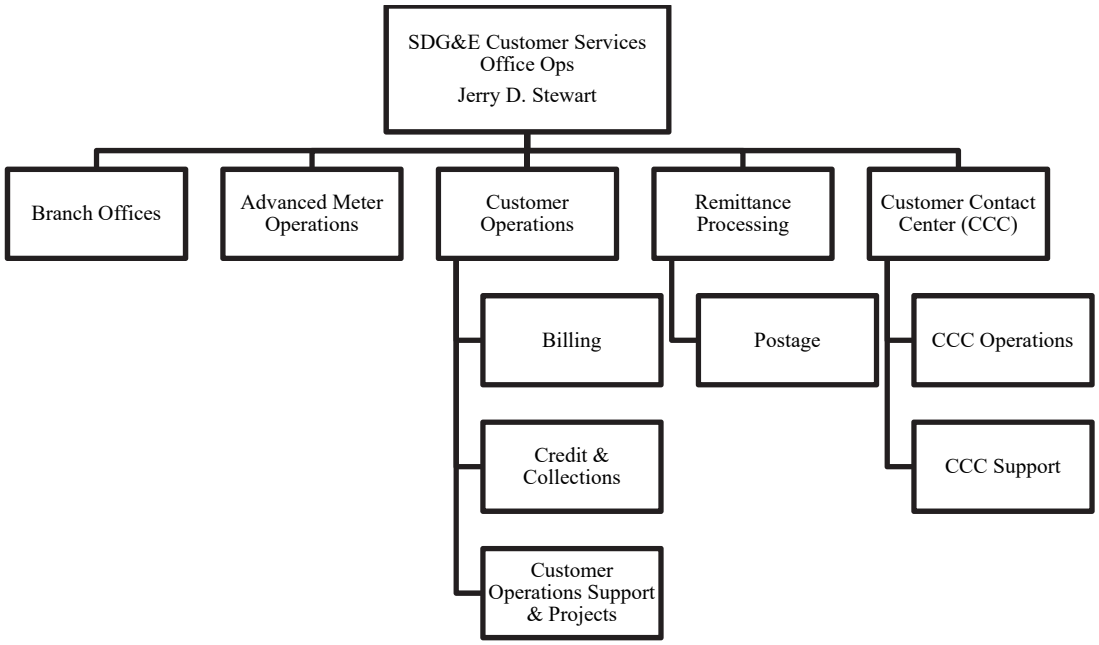
INFO TECH/TELECOM CAPITAL			
(In 2016$)			
Categories of Management	**Estimated 2017 (000s)**	**Estimated 2018 (000s)**	**Estimated TY 2019**
CS – Office Operations	**14,897**	**15,774**	**16,332**

Customer Service Office Operations (CSOO) provides safe, efficient, effective and reliable customer service to SDG&E's over 3 million consumers. By employing a customer centric approach, SDG&E listens, understands and responds to customers' requests, concerns and feedback, and helps customers make informed energy choices that best suit their energy goals. To this end, SDG&E has won several awards for outstanding customer service and best practices as detailed in the testimony of Lisa Davidson (Exhibit SDG&E-19). We are proud of these recognitions and strive every day to deliver positive, value-added service and experiences

for our customers. Customer Service Office Operations include the following organizations as shown in Figure JS-1 below.

FIGURE JS-1

Customer Service Office Operations Testimony Organization



SDG&E has a strong commitment to being our customers 'trusted energy advisor'. Our goal is to offer integrated and personalized solutions to our customers, giving them more choice, convenience and control of how they interact with SDG&E and manage their energy use while continuing to maintain safe, efficient, effective and reliable customer service.

In order to make customer interaction with SDG&E faster and more effective, SDG&E is continuously enhancing its Interactive Voice Response (IVR) system and My Account website to streamline the customer's experience and expand the available offerings. Today, customers can perform most of the transactions 24/7 on both the web and IVR. These functions include:

- Start, Stop, and Transfer Service
- Bill Payments
- Payment Arrangements and Extensions
- Gas Appliance Checks
- Report an Outage

While offering choice, convenience, and control to our customers is important to SDG&E, we are also very mindful of costs. SDG&E recognizes the need to control costs

through implementing operational efficiencies and process automation projects. To that end, we are proposing several initiatives within our Customer Operations organization, described throughout my testimony, that target optimizing our staff, assets, and business processes, while still providing services that meet our customers' expectations.

B. Summary of Safety and Risk-Related Costs

Some of the costs supported in my testimony are driven by activities described in Southern California Gas Company (SoCalGas) and SDG&E's November 30, 2016 RAMP Report.[1] The RAMP Report presented an assessment of the key safety risks of SoCalGas and SDG&E and proposed plans for mitigating those risks. As discussed in the Risk Management testimony chapters of Diana Day and Jamie York (Exhibit SCG-02/SDG&E-02, Chapters 1 and 3, respectively), the costs of risk-mitigation projects and programs were translated from that RAMP Report into the individual witness areas.

In the course of preparing my GRC forecasts, I continued to evaluate the scope, schedule, resource requirements and synergies of RAMP-related projects and programs. Therefore, the final representation of RAMP costs in my testimony may differ from the ranges shown in the original RAMP Report.

Table JS-3 provides a summary of the RAMP-related costs supported by my testimony by RAMP risk:

TABLE JS-3
Summary of RAMP Overlay

CS - OFFICE OPERATIONS (In 2016 $)			
RAMP Risk Chapter	**2016 Embedded Base Costs (000s)**	**TY 2019 Estimated Incremental (000s)**	**Total (000s)**
SDG&E-3 Employee, Contractor and Public Safety	667	166	833
SDG&E-17 Workforce Planning	38	71	109
Total O&M	**705**	**237**	**942**

[1] I.16-10-015/I.16-10-016 Risk Assessment and Mitigation Phase Report of San Diego Gas & Electric Company and Southern California Gas Company, November 30, 2016. Please also refer to Exhibit SCG-02/SDG&E-02, Chapter 1 (Diana Day) for more details regarding the utilities' RAMP Report.

C. Summary of Costs Related to Fueling our Future (FOF)

As described in the joint sponsored testimony of Hal Snyder and Randall Clark (Exhibit SCG-03/SDG&E-03), the utilities kicked off the FOF initiative in May 2016, to identify and implement efficient operations improvements. Various workgroups in CSOO benefit from the FOF initiative. The details of the FOF improvements and the savings to be realized as a result of implementing them in this group, relate to both labor and non-labor costs and are included in each of the impacted workgroups in this testimony. Total FOF savings reflected in TY 2019 is approximately $191,000, as shown in Table JS-4 below.

TABLE JS-4
Summary of FOF Costs

CS - OFFICE OPERATIONS (In 2016 $)			
FOF O&M	**Estimated 2017 (000s)**	**Estimated 2018 (000s)**	**Estimated 2019 (000s)**
FOF-Ongoing/<Benefits>	-143	-600	-191
Total O&M	**-143**	**-600**	**-191**

D. Organization of Testimony

My testimony is organized into four main categories: Risk Assessment Mitigation Phase and Safety Culture (Section II), Non-Shared Services Costs (Section III), Uncollectible Rate (Section IV), and Capital Projects (Section V). I will first address the non-shared costs for all the areas within CSOO such as Advanced Meter Operations, Billing, Credit and Collections, Remittance Processing, Postage, Branch Offices and Authorized Payment Locations, Customer Contact Center Operations, Customer Contact Center Support, and Customer Operations Support and Projects. In each of the non-shared sections, I present the primary activities of the workgroup, the reason for using the base year forecast methodology, and business justification for the request for each of the cost drivers.

I present SDG&E's request for the uncollectible rate and rationale for how it was derived. Following that, I provide the business justification for the IT capital costs for technology that supports CSOO and are sponsored by SDG&E witness Christopher Olmsted (Exhibit SDG&E-24).

E. Support To/From Other Witnesses

The costs set forth in my testimony are impacted by the following:

- IT capital costs for technology that supports Customer Service Office Operations are sponsored by Mr. Olmsted (Exhibit SDG&E-24); however, my testimony will justify the business need for these costs.
- Memorandum account proposals are sponsored by SDG&E witness Norma Jasso (Exhibit SDG&E-41). However, I sponsor the reasonableness of costs recorded in the Residential Disconnect Memorandum Account (RDMA).
- Forecasted meter growth is covered in witness Rose-Marie Payan's testimony (gas customer forecast), (Exhibit SDG&E-37) and witness Ken Schiermeyer's testimony (electric customer forecast), (Exhibit SDG&E-38).
- Miscellaneous revenues, including the basis for the forecasted revenues and the projected revenues, are sponsored by witness Eric Dalton (Exhibit SDG&E-40).
- Costs associated with company fleet vehicles are sponsored by witness Carmen Herrera (Exhibit SDG&E-21).

II. RISK ASSESSMENT MITIGATION PHASE AND SAFETY CULTURE

RAMP

As illustrated in Table JS-3 above, part of my requested funds is linked to mitigating top safety risks that have been identified in the RAMP Report. These risks are further described in the Table JS-5 below:

TABLE JS-5
RAMP Risk and Descriptions

RAMP Risk	Description
Employee, Contractor, and Public Safety	The risk of non-adherence to safety programs, policies and procedures which may result in severe harm to employees, contractors, and the general public.
Workforce Planning	Loss of employees with deep knowledge, understanding, and experience in operations due to retirements.

In developing my request, priority was given to these key safety risks to determine which currently established risk control measures were important to continue and what incremental efforts were needed to further mitigate these risks. Identifying projects and programs that help to mitigate these risks manifest themselves in my testimony as adjustments to my forecasted costs. This adjustment process was used to identify both RAMP mitigation costs that are embedded as

part of traditional and historic activities, as well as forecasted RAMP incremental costs, those are also associated with mitigation strategies and correspond to historic or new activities. These can be found in my workpapers as described below. The general treatment of RAMP forecasting is described in the testimony of RAMP to GRC Integration witness Jamie York (Exhibit SCG-02/SDG&E-02, Chapter 3). There are also a few instances where, in the course of developing my GRC forecast, additional safety-related mitigation activities were identified that were not included in the November 2016 RAMP Report. These have been marked as RAMP-Post Filing and treated as if they had been included in the original RAMP Report.

For each of these risks, an 'embedded' BY 2016 cost-to-mitigate, and any incremental costs expected by the TY 2019 are shown in the following Table JS-6 below. The table also provides the location in my workpapers where the specific adjustments representing those incremental costs can be found. The details for the individual mitigation effort are further described in impacted testimony areas below.

TABLE JS-6
RAMP Summary of Costs

CS - OFFICE OPERATIONS (In 2016 $)			
SDG&E-3 Employee, Contractor and Public Safety	**2016 Embedded Base Costs (000s)**	**TY 2019 Estimated Incremental (000s)**	**Total (000s)**
1OO001.000, Advanced Metering Ops	37	0	37
1OO003.000, Credit & Collections	239	0	239
1OO006.000, CCC Operations	391	166	557
Total	**667**	**166**	**833**
SDG&E-17 Workforce Planning	**2016 Embedded Base Costs (000s)**	**TY 2019 Estimated Incremental (000s)**	**Total (000s)**
1OO001.000, Advanced Metering Ops	38	71	109
Total	**38**	**71**	**109**

As Table JS-6 demonstrates, the RAMP risk mitigation efforts are associated with specific programs or projects. For each of these mitigation efforts an evaluation was made to determine the portion, if any, that was already being performed in our historical activities. A determination was also made of the portion that may be accommodated within a forecasting

methodology such as averaging or trending, as well as the portion, if any, that represents a true incremental cost increase or decrease from that forecasting methodology.

While the starting point for consideration of the risk mitigation effort and cost was the RAMP Report, we did not cease our evaluation of those efforts for the preparation of my GRC request. Changes in scope, schedule, availability of resources, overlaps or synergies of mitigation efforts, and shared costs or benefits were also considered. Therefore, the incremental costs of risk mitigations sponsored in my testimony may differ from those first identified in the RAMP report. Significant changes to those original cost estimates are discussed further in my testimony or workpapers related to mitigation efforts.

A. Employee, Contractor and Public Safety

Customer Contact Center (CCC) Emergency Orders - The CCC is generally the first point of company contact for emergencies. For example, damage to electrical equipment, wires down and gas leak calls are given top priority in the Energy Services Specialist (ESS) call queue and ESSs are trained, speaking both English and Spanish, to discern the different types of emergencies and triage calls to ensure appropriate field personnel are sent in response to the situation. The CCC also helps to ensure safety during non-emergency situations through issuing customer requested appliance inspection and maintenance orders.

Advanced Meter Operations (AMO) Behavior Based Safety (BBS) Programs - BBS utilizes a proactive approach to safety and health management, focusing on principles that recognize at-risk behaviors as a frequent cause of both minor and serious injuries. BBS is intended to reduce the occurrence of at-risk behaviors by modifying an individual's actions and/or behaviors through observation, feedback and positive interventions aimed at developing safe work habits.

Energy Diversion Investigations – Meter tampering and meter bypass investigation and remediation performed by the Meter Revenue Protection (MRP) team. Bypasses or unauthorized attachments create unsafe conditions for our crews as well as public safety officers and first responders. The unauthorized attachments are not standard and are a violation of the electrical code and local building ordinances. These connections present the potential for fire, electrical shock or even the risk of electrocution to a SDG&E service technician, law enforcement, firefighters, city or county officials, occupants of the residence and/or community.

Due to the nature of these activities, SDG&E is proposing to continue with its baseline activities as described above. No alternatives to emergency order call volumes, new BBS programs or Energy Diversion activities were evaluated. The TY 2019 estimated incremental costs for RAMP do not refer to new projects or programs, but rather, these estimated incremental costs represent the change in activity levels as compared to BY 2016 embedded levels. This change in activity levels impacts workforce requirements, which affects RAMP-related mitigation costs.

B. Workforce Planning

To mitigate retirement risk of critical roles, SDG&E is requesting a program for an AMO metering school and one Apprentice Electric Meter Tester. The metering school is a third-party training program that covers the principles of metering engineering, including all the various meter forms, how they function, the specific metering application, equipment, and tools. Due to the specific nature of this activity, SDG&E has not separately explored any other alternatives.

Safety Culture

SDG&E is committed to providing safe and reliable service to its customers. Our safety-first culture focuses on our employees, customers, and public safety, and is embedded in every aspect of our work. This effort includes developing a trained workforce, operating and maintaining the gas and electric infrastructure, and providing safe and reliable gas and electric service. SDG&E's strong safety culture and commitment to further developing processes and programs is designed to manage safety risks and promote system reliability.

This commitment describes our well-developed "safety first" culture, which is founded on proven employee-based programs, safety training programs and education of our workforce. These programs are detailed in our RAMP filing in the Employee, Contractor and Public Safety and Workforce Planning chapters. CSOO promotes and supports the company's safety culture by conducting all hands meetings held once a month where field and office at-risk behaviors are communicated to the employees with an action plan to correct the behaviors, leading individual team meetings with a safety message delivered by a Safety Advisor, and establishing a Safety Committee, Safety Barometer Action Planning Team and an Incident Review Team. Safety Committee Meetings are held monthly in many departments within Customer Service Office Operations. Safety Committee meetings address location specific issues and plan Safety Stand-downs. The Company-wide Safety Committee Chairpersons meet with the Safety Advisory

Team (SAT) quarterly to disseminate company-wide safety information. The Chairpersons attending these meetings bring back current safety related messaging intended to reduce or eliminate safety incidents.

III. NON-SHARED COSTS

Non-Shared Services O&M costs represent the costs of labor and non-labor activities required to deliver services exclusively benefitting SDG&E and its customers and do not need to be allocated out to other business units. Table JS-7 below summarizes the total non-shared O&M forecasts for the listed cost categories that I am sponsoring.

TABLE JS-7
Non-Shared O&M Summary of Costs

CS - OFFICE OPERATIONS (In 2016 $)			
A. Customer Service Office Operations	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
1. Advanced Metering Operations	8,157	10,034	1,877
2. Billing	4,263	8,023	3,760
3. Credit & Collections	2,627	3,073	446
4. Remittance Processing	785	745	-40
5. Postage	4,160	3,856	-304
6. Branch Offices	1,979	2,209	230
7. Customer Contact Center Operations	8,937	10,096	1,159
8. Customer Contact Center Support	2,790	2,679	-111
9. Customer Operations Support & Projects	3,120	3,604	484
Total	**36,818**	**44,319**	**7,501**

A. Advanced Metering Operations (AMO)

Table JS-8 below summarizes SDG&E's requested TY 2019 expenses for AMO.

TABLE JS-8
Forecast for AMO

CS - OFFICE OPERATIONS (In 2016 $)			
A. Customer Service Office Operations	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
1. Advanced Metering Operations	8,157	10,034	1,877
Total	**8,157**	**10,034**	**1,877**

1. Description of Costs and Underlying Activities

AMO supports the delivery of customer services on premises, responds to customer inquiries, resolves customer problems, and ensures safe, accurate, and reliable metering for SDG&E's 2.3 million meters, covering all of San Diego County and South Orange County. The key subgroups within the AMO organization are: Smart Meter Data Operations, Electric Metering Operations, Quality Assurance & Training, Electric Metering Engineering, Network Operations & Engineering, and Smart Meter Technical Support. Additional description of each AMO sub-group is provided below.

- Smart Meter Data Operations (SMDO)

SMDO is responsible for the collection, processing, and validation of daily reads for all gas and electric meters in SDG&E's service territory. The SMDO group is the business owner and operator of the Meter Data Management System (MDMS), the Collection Engine (CE), and the Operation Reporting System (ORS). The primary purpose of the MDMS and the CE is to ensure that complete and accurate meter read data is provided to the billing system. ORS provides various operational reports and is used for meter exception tracking. SMDO is also responsible for SDG&E's legacy automated meter reading application (MV-90), which remotely collects data for 500 legacy Interval Data Recorder (IDR) meters. The primary responsibilities of the SMDO team are to provide daily (24/7) operation and monitoring of the supported systems and applications, perform system and application upgrades, diagnose and troubleshoot the Smart Meter communication systems, and to provide desktop troubleshooting for meters failing validation, validating data accuracy and completeness, failing meter communications, and monitoring meter events and alarms.

- Electric Metering Operations (EMO)

EMO is responsible for electric meter field related activities for all commercial customers and reading and troubleshooting all Smart Meters. Most of these field activities are related to: setting new meters; testing, removing and changing meters; investigating/troubleshooting in field metering problems; and reading and verifying meters. To satisfy California Public Utilities Commission (CPUC) compliance requirements, EMO tests and verifies existing electric meters on an annual and bi-annual scheduled basis pursuant to the CPUC's Direct Access Standards for Metering and Meter Data (DASMMD) guidelines. In Decision (D.)98-12-080, dated December 17, 1998, the CPUC adopted permanent standards for meter products that may be used in California's Direct Access market. These standards were based upon recommendations made to the CPUC in a report by the Permanent Standards Working Group. SDG&E's policy is to follow these standards for all SDG&E customers, in addition to Direct Access customers. The following Table JS-9 shows the testing frequency and customer criteria based on the DASMMD.

TABLE JS-9
Direct Access Standards for Metering and Meter Data
Minimum Meter Maintenance and Testing Schedule

Maintenance and Testing Frequency	Customer Maintenance and Testing Criteria
One Year Interval	Customer's annual usage of 2 million kWh or higher
Two Year Interval	Customer's annual usage between 720,000 and 2 million kWh
Annual Statistical Sample Plan	Non-residential customer's annual usage less than 720,000 kWh
Residential Meters	Either an annual formal sampling plan, or tests performed upon customer request and removal, where applicable

Nearly 90% of the electric meters in SDG&E's territory are residential and single phase metering applications. EMO supports the investigation of these residential customer meters and replaces meters when necessary. EMO also performs single phase meter testing, manual meter reads, and meter read verifications.

- Quality Assurance & Training

The Quality Assurance (QA) & Training group is responsible for ensuring the accuracy and functionality of electric meters and electric metering equipment, identifying potential safety issues at customer premises, validating that field employees adhere to department policies and

procedures, and certifying that field technicians are trained properly. The QA & Training group has three primary areas of responsibility: Meter and Instrument Shops, Meter Technician Auditing (field and desktop), and Meter Technician Training.

- Network Operations & Engineering

The primary responsibilities of the Network Operations & Engineering workgroup consist of the design and optimization of the Smart Meter Radio Frequency Local Area and Wide Area networks, performing technical assessments of meter and network reliability, and conducting testing and evaluations of improved technologies to support the evolution of the Smart Meter Network and the CE application.

- Electric Metering Engineering

The primary responsibility of Electric Metering Engineering (EME) is to ensure safe, accurate, and reliable metering. EME's key work responsibilities include determining meter standards and specifications, evaluating, troubleshooting, and approving electric meters, instrument transformers, metering products and equipment, and developing specialized metering designs for field applications such as power generation and net metering. EME maintains metering software applications related to electric meter configurations, and devices used for meter programming and reading. EME documents new procedures, training aids for new metering products and equipment, and provides training to Metering Field Technicians as well as other technical support to internal groups.

- Smart Meter Technical Support (SMTS)

The SMTS group is comprised of metering system technical experts and focuses on providing technical support to Advanced Metering Operations and various external customers. The primary responsibilities of SMTS include gathering requirements for system development or system enhancements, creating test plans, creating databases, data queries, developing metrics, analyzing data, building reports, and automating existing manual processes to enhance process effectiveness. In addition, SMTS also performs end-to-end testing of all the Smart Meter related systems to validate that meter data is accurate and functionality is unaffected when new firmware is released, new configurations are built, and new Smart Meters are approved for deployment.

The calculations for the estimated expenses for AMO are included in workpapers (Ex. SDG&E-18-WP 1OO001.000).

2. Forecast Method

I chose a base year forecast method for TY 2019 for AMO because the last recorded year accurately reflects the expense level associated with current departmental activity. The business has changed considerably due to the transition of all commercial customers to time-of-use (TOU) rates. Starting in late 2015, small commercial customers were transitioned to TOU event-based rates and then in early 2016, medium commercial customers were transitioned. AMO business processes related to interval data validation, editing, and field work for customers on TOU rates take significantly more time to complete due to the number of interval reads required to generate a customer's bill. Therefore, the base year provides a reasonable starting point for future expenditures.

3. Cost Drivers

Table JS-10 summarizes the changes in AMO estimated expenses for TY 2019.

TABLE JS-10
Changes in AMO TY 2019 Estimated Expenses

AMO	TY 2019 - 2016 Change (000s)			
	Labor	Non-Labor	Total	FTEs
Work Order Volume Increase	90		90	1.0
Apprentice Meter Testers	304		304	2.9
RAMP – Workforce Planning – Electric Meter Tester	61		61	.6
RAMP – Workforce Planning – Meter School		10	10	
VREP and Full Year Labor Impact	-114		-114	-1.3
Residential TOU Mass Default	680	993	1,673	10.0
Non-Labor Adjustment		-101	-101	
Capital Project Impacts – Enhanced Network Analytics – Capital Project #T19036		125	125	
FOF - Business Optimization	-171		-171	-2.2
Total TY 2019 Impact	**850**	**1,027**	**1,877**	**11.0**

a. Work Order Volume Increase

I am requesting $90,000 in labor above the BY 2016 for one Electric Meter Tester to manage work order growth. Work order volume is projected to increase by approximately 5,300 orders over the BY 2016 actuals due to increased customer growth and the increasing number of

TOU accounts. The support required is in the areas of meter changes, read/verify, and miscellaneous issues.

The requested labor increase for Electric Meter Tester will support 1,000 of the 5,300-work order increase and would be responsible for setting new meters; testing, removing and changing meters and associated metering equipment; investigating/troubleshooting in field metering problems; installing and troubleshooting Smart Meter network devices; and reading and verifying meters. EMO will be conducting meter changes on all Opt-Out meters,[2] in order to create efficiencies related to manual tracking and sample testing for various meter family types. As a result of the above activities, AMO is requesting a company vehicle in 2017 for this employee to travel to customer premises on a daily basis.[3]

b. Apprentice – Meter Testers

I am requesting $304,000 in labor above the BY 2016 to account for the full year 2016 impact of five new Apprentice Meter Testers ($205,000) as well as their step-up labor increases due every six months ($98,000) over a 3-year training period. Step-up increase every 6 months is a negotiated item with the local International Brotherhood of Electrical Workers (IBEW) 465 until the end of their 3-year apprenticeship. In August of 2016, a 3-year apprenticeship program began to assist with the additional workload projected in 2017 – 2019, and to help offset anticipated attrition during this time. This program started with the addition of 6 new employees who would spend approximately 50% of their time in the field during 2017- 2019, managing the balance of increased work order activity as described in section a. Work Order Volume Increase above (4,300 of the forecasted 5,300 orders). Because of the above activities, AMO is requesting company vehicles in 2017 for these employees to travel to customer premises on a daily basis.[4]

c. RAMP – Workforce Planning – Electric Meter Tester

I am requesting $61,000 in labor above BY 2016 to account for the full year 2016 impact of one new Apprentice Meter Tester ($42,000) as well as the step-up labor increases due every

[2] Opt-Out meters are non-smart meters that are installed on a customer premise per Decision D.12-04-019.

[3] The additional fleet costs can be found in the Direct Testimony of Carmen Herrera (Exhibit SDG&E – 21).

[4] Id.

six months ($19,000) over a three-year training period. Step-up increase every six months is a negotiated item with the local IBEW 465 until the end of the 3-year apprenticeship for the RAMP Activity of Workforce Planning (Risk Assessment Mitigation Phase Workforce Planning Chapter SDG&E-17). Workforce Planning is the risk of the loss of employees with deep knowledge, understanding, and experience in operations due to retirements. Employees age 62 or older who meet Company years of service requirements are eligible and considered likely to retire. The departure of employees who fill critical operational roles could affect employee and/or public safety, as their knowledge and experience is essential to safely operating and maintaining SDG&E's gas and electric systems. Generally, these roles tend to be highly specialized, and employees tend to remain in these jobs for many years, gaining experience and a heightened awareness towards safety. Furthermore, Electric Meter Testers are responsible for setting new meters; testing, removing and changing meters and associated metering equipment; investigating/troubleshootingfield metering problems; installing and troubleshooting Smart Meter network devices; and reading and verifying meters. To become an Electric Meter Tester, employees must complete a three-year Electric Meter Tester Apprenticeship program. The $42,000 request will enable us to plan and fill these critical roles, prepare to replace this collective knowledge and experience, and help mitigate the risk to public and employee safety.

d. RAMP – Workforce Planning – Meter School

I am requesting $10,000 in non-labor above BY 2016 for the additional cost associated with formal training for new Meter Engineers. The incremental $10,000 would enable new Meter Engineers to attend a formal training class to learn specific skill sets required for metering as mentioned above in RAMP Risk and Descriptions, Section B. Workforce Planning. Electric Meter Engineers ensure safe and reliable operation of electric meters through extensive hardware and firmware testing, and meter failure evaluation and analysis.

e. Voluntary Retirement Enhancement Project (VREP) and Full Year Labor Impact - Process Improvements

The AMO forecast reflects a ($114,000) reduction in the TY 2019 forecast due to restructuring of the department, streamlining the employees' job responsibilities and elimination of lower-valued tasks from the employees' day to day job duties. As discussed in our RAMP filing on Workforce Planning, SDG&E has used programs, like our recent VREP, to achieve an orderly transition of knowledge and skills between select retirement-eligible employees and

those employees ready to move into leadership or other senior positions. The VREP offered a voluntary separation package to a select group of retirement eligible employees in areas believed to have skill surpluses to enable SDG&E to achieve balance and appropriate staffing for projected workforce requirements. SDG&E has periodically offered similar VREP programs in the past.

f. Residential TOU Mass Default

I am requesting $680,000 in labor and $993,000 in non-labor above BY 2016 to provide support for the Residential Mass default. On July 3, 2015, the Commission made effective D.15-07-001 (Decision on Residential Rate Reform for Pacific Gas and Electric Company, Southern California Edison Company and SDG&E and Transition to TOU Rates). As part of the Decision, the Investor-Owned Utilities (IOUs) were ordered to implement a default residential TOU pilot program no earlier than January 1, 2018, in preparation for the full roll out of default residential TOU rates in TY 2019 (TOU Mass Default). As reflected in Advice Letter (AL) 3020-E, SDG&E's goal is to transition 100,000 customers to TOU pricing in March 2018, based on the customers' billing cycle. In TY 2019, approximately 800,000 additional residential customers will default to Residential TOU rates.

As reflected in previous sections, AMO business processes have changed considerably due to the transition of all commercial customers to time-of-use rates. Consequently, interval data validation, data editing, and associated field work all take significantly more time to complete. Based on a data snapshot from December 31, 2016, there are approximately 190,354 TOU billed accounts. Of these over 190,000 accounts, there are approximately 250 accounts per day that require investigation and troubleshooting by back office analysts. One back office analyst can troubleshoot, on average, 50 accounts per day. There are approximately five analysts that support the investigation/resolution of 250 daily meter exceptions. In 2019, approximately 800,000 meters will be defaulted to TOU rates with an anticipated daily exception rate of 955 (0.12%), which would require 19 Full-Time Equivalents (FTE). The Enhanced Network Analytics project (#T19036), as described in Section V.(D), is expected to deliver enhancements that will create efficiencies to existing TOU processes, and is anticipated to reduce the TOU Mass Default resource requirement from 19 FTEs to 10 FTEs.

In addition to back office support, 14% of the monthly exceptions require field technician-related activities for interval data to be collected in time for billing.

Moreover, one Single Phase Meter Technician (SPT) can field and collect interval data from approximately 19 meters/orders per day. At an exception rate of 4,000 meters, 10 SPT's will be required to support field data collection and investigation activities (4,000 exceptions/(19 orders per day@ 21 working days per month) =10.03 SPTs).

For the various reasons discussed above, I am requesting $923,000 in non-labor for 10 contract resources (Business Analysts), $680,000 in labor for 10 Single Phase Meter Technicians, and $70,000 in non-labor funding for tools to support meter data and communications exception management and field data collection activities related to Residential TOU Mass Default.

SDG&E is requesting this incremental forecast in the TY 2019, and also intends to present the same forecasted requirements in SDG&E's Mass Default Advice letter to be filed in Q4 2017. The need to ask for this cost in two different applications stems from the fact that in the final Resolution for SDG&E Default Pilot (Resolution E-4848), SDG&E was not allowed to record its incremental default TOU pilot costs in SDG&E's Rate Reform Memorandum Account (RRMA), which SDG&E established in response to the Commission's directive in D.15-07-001. The express purpose of the memorandum account is to track verifiable incremental costs associated with TOU pilots and other reasonable expenditures as required to implement this Decision. SDG&E, in the Mass Default Advice Letter, will suggest that Residential TOU Mass Default is a one-time activity, and better suited for resolution in an advice letter than in the TY 2019 GRC proceeding. However, since GRC testimony is served once every 3 years, the opportunity to ask for the incremental forecast through the GRC is now. An adjustment will be made to SDG&E's TY 2019 GRC authorized revenue requirement if SDG&E's request is approved in the Mass Default Advice Letter, enabling SDG&E to record the TOU Mass Default expense in the RRMA.

g. Non-Labor Adjustment

The AMO TY 2019 forecast reflects a ($101,000) reduction in non-labor due to the implementation of the Enhanced Network Analytics project. These temporary positions were needed to support delays associated with Smart Meter Operations Center-Exception Management (SMOC-EM) application implementation and they will be eliminated in TY 2019. These positions were responsible for investigating the root cause of meter communication or data

quality related issues across several applications to ensure accurate and timely billing for customers. Therefore, an adjustment was made to remove the recorded cost.

h. Capital Project Impacts (Smart Meter Network Enhancement project)

I am requesting $125,000 in non-labor above the BY 2016 for the annual hosting fees of a third-party network management system resulting from the implementation of the Smart Meter Network Enhancement project. SDG&E is migrating to a fully standards based, secure, multi-purpose network. This gives SDG&E the ability to leverage its network for various initiatives, which include power quality analytics with automated control, methane sensing, gas control, street light management, as well as supporting piggybacking for water utilities (as in R.13-12-011 Water Energy Nexus) and smart city applications thereby eliminating the cost for additional single purpose networks of the past.

i. FOF - Business Optimization

The AMO TY 2019 forecast reflects a ($171,000) reduction in labor compared to BY 2016 to account for the business optimization efforts under FOF. Different FOF initiatives were identified to improve AMO efficiency, such as Smart Meter technology, to reduce the number of existing manual meter reads; reducing the number of exception meters related to the digitizing work order and intake process for contract crews; and developing or enhancing automated solutions to detect and fix smart meter related issues. The initiatives collectively would reduce the labor cost by $171,000 for 2.2 FTEs.

B. Billing

Table JS-11 below summarizes SDG&E's requested TY 2019 expenses for Billing.

TABLE JS-11
Forecast for Billing

CS - OFFICE OPERATIONS (In 2016 $)			
A. Customer Service Office Operations	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
2. Billing	4,263	8,023	3,760
Total	**4,263**	**8,023**	**3,760**

1. Description of Costs and Underlying Activities

Billing Operations expenses cover the cost of calculating customer bills and maintaining accurate customer account information. From 2015 to 2016, the number of interval billed accounts increased from 33,076 to 177,985, due to the small and medium commercial TOU default. In addition to this transition, billing also implemented Net Energy Metering (NEM) 2.0 and saw an increase in the number of customers electing more complex solar rate options such as Net Energy Metering Aggregate (NEM-AGG) and Net Energy Metering Virtual (NEM-V). In addition to the regulatory changes implemented, Billing Operations saw an exponentially large increase in the number of delayed bills due to the aging billing system. Upcoming regulatory implementations include TY 2016 GRC Phase 2 (anticipated in December 2017), Residential TOU pilot (anticipated in March 2018), and the Residential TOU Mass Default (anticipated in TY 2019). Additional resources will be needed to address other billing items related to these implementations. The Billing Operations organization has four distinct areas: Customer Billing, Customer Account Verification, Customer Billing Resources, and Rate Entry Team. Additional descriptions of each Billing group are provided below.

- Customer Billing

Customer Billing activities generally fall into three categories:

1. Exception Processing: Work items created for failed validations prior to the account creating a customer bill (*e.g.*, high gas consumption);
2. Corrective Billing: Work items created to correct a billing period that has already been fully processed in the billing system (*e.g.*, customer calling in for a back dated change of account); and
3. Large Commercial & Industrial (C&I) and other specialized customers (*e.g.*, bills that are manually processed).

Before being mailed, all bills are subjected to an automated validation process to ensure overall accuracy and alignment with historical usage patterns. Most billing statements successfully pass the validations and are automatically issued. However, a small percentage of bills fail one or more of the validations and require further review. Like the bill validation process, completed field service orders are also validated to ensure the accuracy of customer account data. The orders that fail the validations cannot be routinely processed and must be handled manually for accurate resolution.

Billing for large C&I and other specialized customers includes calculations for distributed generation, monthly gas balancing, and various special contract arrangements. Processing bills for these customers is complex, beginning with the validation of measurement data and subsequently proceeding into bill calculations. Due to the unique nature of each arrangement, the billing process involves manual intervention to ensure full regulatory and tariff compliance.

- Customer Account Verification

Another area of Billing Operations' responsibility is the verification of all billing attributes and management of the initial billing set-up process associated with customer accounts. These responsibilities include updating and maintaining billing attributes, such as rates and baseline codes, and performing billing set-up tasks for both routine accounts and specialized contract agreements and programs such as Net Energy Metering, Virtual Net Metering, Electric Vehicles, Critical Peak Pricing, Direct Access, Core Aggregation Transportation, Revert to Owner, Group Bill, and Smart Meter Opt-Out. Separating the initial billing set-up process for a customer account from the monthly billing activities performed by the Customer Billing group allows for greater focus to ensure that all attributes are entered correctly and reviewed in a comprehensive manner.

- Customer Billing Resources

All training, quality assurance, and communication functions for Billing Operations are consolidated within the Customer Billing Resources group. This team is responsible for developing and delivering training, creating and maintaining policies and procedures, performing audits and quality assurance checks, and developing billing communications for external customers as well as internal staff. Customer Billing Resources works continuously with the leadership team to define and develop long-term strategies for providing support as billing continues to become more complex and specialized programs continue to grow and evolve.

- Rate Entry Team

All rate entry is completed by the Rate Entry Team. This team is responsible for manually entering each pricing component for every rate change. In 2016, the Rate Entry Team supported seven rate changes that included 38,600 individual pricing entries. The team also provides production support and project support for new and pending regulatory initiatives.

The calculations for the estimated expenses for Billing are included in workpapers (Ex. SDG&E-18-WP 1OO002.000).

2. Forecast Method

I used a base year forecast method for TY 2019 for Billing because the last recorded year accurately reflects the expense level associated with current departmental activity. The business has changed significantly due to Residential Rate Reform, Small and Medium Business TOU Default, three residential pilot rates, NEM-AGG, NEM-V, NEM 2.0, and NEM Grandfathering. Furthermore, BY 2016 non-labor costs are more reflective of the costs needed to support increasingly complex billing activities. Therefore, the base year provides a reasonable starting point for future expenditures.

3. Cost Drivers

Table JS-12 summarizes the changes in Billing estimated expenses for TY 2019.

TABLE JS-12
Changes in Billing TY 2019 Estimated Expenses

Billing	TY 2019 - 2016 Change (000s)			
	Labor	Non-Labor	Total	FTEs
Growth in Interval Billed Accounts		1,277	1,277	
Residential TOU Mass Default		2,255	2,255	
Complex Billing Data Analytics	204	6	210	2.0
Impact of Regulatory Decisions	89	3	92	1.0
Business Optimization (FOF)	-74		-74	-1.6
Total TY 2019 Impact	**219**	**3,541**	**3,760**	**1.4**

a. Growth in Interval Billed Accounts

I am requesting $1,277,000 in non-labor expense above the BY 2016 for one and a half Billing Supervisor resources and ten Billing Analyst resources to support a one-time 438% growth rate in interval data billed accounts. Interval data billing applies to customers billing on TOU rate schedules and Schedule NEM-Successor Tariff (ST). Customers billing on interval data may bill with shadow billing and bill protection. As we saw in BY 2016, the billing system had trouble handling the complexity of these rate schedules. These customers are metered to record energy in hourly or 15-minute intervals, and they are billed based on the consumption (kWh) and/or demand (kW) recorded in each TOU billing period.

Interval data billing is labor intensive due to the complexity and variation of TOU rate schedules and is further complicated by the significant growth of TOU rate utilization. There are currently 18 different TOU rate schedules. In addition, all NEM-ST customers must bill using interval data to calculate the applicable non-bypassable charges, even if the customer is not on a TOU rate schedule.

In BY 2016, SDG&E completed the roll out of the small and medium commercial TOU default project. This roll out increased the number of accounts billing on interval data by 438%. The increase in the number of customers billing on interval data caused a higher volume of billing exceptions that were more complex to resolve. The volume of billing exceptions also increased significantly due the instability of SDG&E's aging billing system, causing a large number of delayed bills. As noted in Chapter 2 of SDG&E's Application for Authority to Implement the Customer Information System (CIS) Replacement Program (A.17-04-027):

> significant customizations were made to SDG&E's legacy CIS, such as with the Bill Protection billing calculation related to the Smart Pricing Program (SPP), which required two separate rate calculations for all defaulted customers. The significant and numerous changes made to the legacy CIS in late 2015 and in the first half of 2016, caused a marked increase in the number of delayed bills in the subsequent months, with labor-intensive manual fixes necessary in many instances to generate customer bills.[5]

The utilities continue to see changes and additional complexity with TOU billing, including the recent Commission D.17-01-006, which established grandfathering of current TOU periods for current non-residential solar customers for a period of 10 years. These grandfathered TOU time periods will be adopted when SDG&E's recently approved TY 2016 GRC Phase 2 is implemented.

The additional resources are needed support and maintain the growth of interval data billed accounts. If these additional resources are not approved, there will be delays in the account setup and monthly billing process, which may cause delays in customers receiving their monthly billing statements.

[5] Direct testimony of witness Swartz (Chapter 2), p. 18:1-7.

b. Residential TOU Mass Default

I am requesting $2,255,000 in non-labor for expenses above BY 2016 for one contract Billing Supervisor position, one and a half contract Billing Team Lead positions, and thirteen contract Billing Analyst resources to support the 2018 Residential TOU Default Pilot Program and 2019 Residential TOU Default.

As referenced in Section III.A.3.f, IOU's were ordered to implement a default residential TOU pilot program no earlier than January 1, 2018, in preparation for the full roll out of default residential TOU's rates in TY 2019. Like the small and medium business TOU default, residential customers that default to these new rates schedules will be offered bill protection at the end of a relevant period.

Similarly, it is anticipated that account set up issues will occur along with an increase of manual billing exceptions that may cause delays in customer billing. These additional resources are needed to support the roll out of the new residential TOU rates and the on-going monthly billing of these rates. A contracted work force will be needed to handle increasingly complex billing exceptions and manual workarounds. If the additional resources are not approved, we anticipate delays related to account set up activities and exception processing, which lead to delays in billing our customers.

As detailed in Section III.A.3.f, SDG&E is requesting this incremental forecast in the TY 2019 GRC, and intends to present the same forecasted requirements in SDG&E's Mass Default Advice letter (anticipated to be filed in Q4 2017). Adjustment will be made to SDG&E's authorized revenue requirement if SDG&E's request is approved in the Mass Default Advice letter, enabling SDG&E to record the TOU Mass Default expense in the RRMA.

c. Complex Billing Data Analytics

I am requesting $204,000 in labor and $6,000 in non-labor for associated non-labor expenses above the BY 2016 for two Billing Advisors to provide ongoing analytical support. Due to the increase in volume and complexity of billing exceptions, a need for analytical support was identified. These positions will provide support for daily work assignment, billing exceptions, as well as research support into the scenarios causing various exceptions. Furthermore, they will segment and group billing exceptions for effective and efficient issue resolution, as well as provide reporting that will streamline workload and resource allocation. The primary drivers for this request are the increased complexity of Billing activities resulting

from regulatory initiatives (*e.g.*, Small and Medium Business (SMB), NEM 2.0, GRC Phase 2) and system instability.

Starting in 2017, the Billing team contracted a Billing Advisor to help support the activities around delayed bills resulting from the small and medium TOU default process. This additional resource was necessary due to the increase in billing work items. In 2015, prior to the small and medium TOU default, the average number of unique billing work items generated per month was 25,500. In BY 2016, after the small and medium TOU default, the average number of work items increased to 100,000 per month. A full-time Billing Advisor will be needed in 2018, and an additional Billing Advisor will be needed in TY 2019, to support additional activities related to the Residential TOU default. These advisors would be responsible for dashboard maintenance and reporting, metric reporting, issue investigation, process optimization, and daily work assignments. These positions are critical to ensure the efficient use of Billing Analyst resources. Without the Billing Advisor resources, additional Biller resources would be needed to ensure timely and accurate billing of customers.

d. Impact of Regulatory Decisions

I am requesting $89,000 in labor and $3,000 in associated non-labor expenses above the BY 2016 for one Business Systems Analyst to support the TY 2016 GRC Phase 2 implementation and other future regulatory implementation projects. Currently, the department has three Business Systems Analysts that also support rate changes, test bill, project support and production support.

On February 9, 2016, SDG&E filed the TY 2016 GRC Phase 2 with the Commission (A.15-04-012). In the filing, SDG&E requested implementation of six new optional rate schedules. These new rate schedules are intended to allow customers to better manage their energy costs. In addition, Commission D.17-01-006 established grandfathering of current TOU periods for existing non-residential solar customers for a period of 10 years. The new TOU time periods will be established as part of SDG&E's TY 2016 GRC phase 2. To implement and maintain this grandfathered treatment in SDG&E's billing system, each non-residential TOU rate schedule will have a second set of pricing entries. These additional rate schedules will increase the manual pricing entries by 10% prior to GRC phase 2 implementation. After each rate change, additional tasks are performed to ensure billing accuracy. These additional tasks include performing bill calculations on approximately 200 accounts with different billing scenarios to

ensure the pricing was entered accurately. With the implementation of regulatory projects, these manual calculations will verify that system changes migrated without any adverse effects to customer billing. As more rate schedules are added, the number of accounts and scenarios will increase. Without additional support, the team will not be able to complete the bill calculations in a timely manner, increasing the risk of inaccurate bills post-rate changes.

Test bill is a program that runs daily. It creates and prints sample bills and creates reports that detail the dollars billed, which allows comparison to the previous day's test bill run. Active accounts on standard rate schedules are included in this report. If system enhancements are migrated to the billing system, the test bill is run before and after that migration, and the accounts are reviewed to ensure the system changes did not cause billing errors. Test bill, however, has been unable to process some of the more complex scenarios that new rate schedules have presented. Manual exception testing is done on items that cannot be processed in test bill. Currently, this includes net energy metering, standby, finaled accounts, shadow billing, hourly rates, and conjunctive billing. As more complex rate schedules are created, the list of exceptions is anticipated to grow.

An additional Business Systems Analyst is required to support and maintain the increased workload post GRC Phase 2 implementation. If this position is not approved, there will not be enough resources to timely review and audit billing calculations after each rate change. This could cause a large volume of incorrect bills to be mailed to customers, and the amount of time allocated to project support would decrease, which could cause a delay in implementing mandated regulatory projects.

e. FOF - Business Optimization

The Billing forecast reflects a ($74,000) reduction from the BY 2016 adjusted-recorded expenses for the business optimization activity identified during FOF. The efforts to digitize intake process and work orders for contract crews (electronic work orders) as well as the implementation of a Case Management System for Complaint Resolution would reduce labor while streamlining the work process for the group.

C. Credit & Collections

Table JS-13 below summarizes SDG&E's requested TY 2019 expenses for Credit & Collections.

TABLE JS-13
Forecast for Credit & Collections

CS - OFFICE OPERATIONS (In 2016 $)			
A. Customer Service Office Operations	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
3. Credit & Collections	2,627	3,073	446
Total	**2,627**	**3,073**	**446**

1. Description of Costs and Underlying Activities

Credit & Collections consists of Credit and Collections, Customer Payment Services, and Meter Revenue Protection.

- Credit and Collections

Credit and Collection activities encompass all traditional credit office functions:

- Credit policy and procedure development and review;
- Management reporting and analysis;
- Management of outside collection agencies;
- Skip tracing (research to locate a customer after a service termination and the final bill reaches delinquent status) and final bill collection;
- Collection of delinquent residential and small commercial accounts; and
- Bankruptcy processing.

Regular analysis and reporting of key credit metrics drive credit risk guidelines (i.e., account securitization, bill extension and payment arrangement terms as well as individual customer credit decisions). These latter activities are critical in assessing credit risk and attempting to reduce bad debt exposure for the benefit of all SDG&E customers.

- Customer Payment Services

Customer Payment Services handles all exception payments, performs daily reconciliation, and the general ledger posting of payments from all sources. An exception payment is defined as a payment that cannot automatically post in the Customer Information System. Examples include customers providing incorrect SDG&E customer account numbers or payments returned for insufficient funds. Prior to posting in the general ledger, a reconciliation of payments and credits (*e.g.*, return items, fees) posted in the CIS system and the respective SDG&E bank account are performed.

- Meter Revenue Protection (MRP)

MRP investigates leads associated with potential customer energy theft and, more importantly, remediates any related employee and public safety issues. Bypasses or unauthorized attachments create unsafe conditions for our crews as well as public safety officers and first responders. As described in RAMP, Section II, the first order of business when encountering these conditions is corrective action relative to safety. The unauthorized attachments are not standard and violate the electrical code and local building ordinances. These connections present the potential for fire, electrical shock or even the risk of electrocution to a SDG&E service technician, law enforcement, firefighters, city or county officials, occupants of the residence, and/or community. Additionally, MRP performs credit assists. Credit assists typically result from a new customer attempting to sign for service at a premise immediately after disconnection for non-payment, and thus MRP performs a field visit to confirm a change in residency and customer identification.

The calculations for the estimated expenses for Credit & Collections are included in workpapers (Ex. SDG&E-18-WP 1OO003.000).

2. Forecast Method

I used a base year forecast method for TY 2019 for Credit & Collections because the last recorded year accurately reflects the expense level associated with current departmental activity. Efficiencies have been gained in both Customer Payment Services and Credit & Collections as manual data entry processes have been automated. Some examples of efficiencies include: enhanced automated search, where open account receivables are searched for a possible match to the unidentified (un-postable) payment before a work item is created, Escheatment Process, "turn on" investigation process, and NEM Strategies where the system was enhanced to accommodate annual payments mandated by the NEM tariff. Therefore, the base year provides a reasonable starting point for future expenditures.

3. Cost Drivers

Table JS-14 summarizes the changes in Credit & Collections estimated expenses for TY 2019.

TABLE JS-14

Credit & Collections	TY 2019 - 2016 Change (000s)			
	Labor	Non-Labor	Total	FTEs
Collection Agency Commissions		134	134	
Customer Growth	53	22	75	.9
VREP	-212		-212	-2.8
Complex Credit Data Analytics	204	6	210	2.0
Business Optimization (FOF)	106	133	239	1.9
Total TY 2019 Impact	**151**	**295**	**446**	**2.0**

a. Collection Agency Commission

I am requesting $134,000 in non-labor above the BY 2016 for the collection agency commission payments. With the increase in the number and dollar value of customer final bills and a decrease in in-house collections resources, SDG&E has experienced a steady increase in the amount (volume and dollars) of delinquent final bills sent to outside collection agencies. Agencies are compensated based on a percentage of the monies they recover, thus the increase in the number and value of delinquent bills creates an increase in these commission payments.

b. Customer Growth

I am requesting $53,000 in labor and $22,000 in associated non-labor above the BY 2016 due to increased credit activities resulting from customer growth. This additional FTE would be responsible for ensuring timely, and responsive customer service to support the increased volume of transactions, including activities such as confirming tenancy changes and other verifications as part of new service requests and managing excessively delinquent customer accounts.

c. VREP

Credits & Collections workgroup's TY 2019 forecast reflects a ($212,000) reduction in labor expenses related to employee VREP Programs. As discussed earlier and in our RAMP filing on Workforce Planning, SDG&E has used programs like VREP to achieve an orderly transition of knowledge and skills between select retirement-eligible employees and those employees ready to move into leadership or other senior positions. The VREP offered a voluntary separation package to a select group of retirement eligible employees in areas believed to have skill surpluses to enable SDG&E to achieve balance and appropriate staffing for projected workforce requirements. Several employees were given the option to accept voluntary

retirement and once the positions were vacated the organization was reorganized to better align with the new objectives of the department. Four work teams were consolidated down to two teams to create additional flexibility in resource allocation and subsequent work was absorbed by the current staff. Another contributing factor included benefits from various process automations introduced in BY 2016.

d. Complex Credit Analytics

I am requesting $204,000 in labor and $6,000 in associated non-labor above the BY 2016 to support the complex credit analytics. The Credit Analytics Advisors will provide analytical and subject matter support on policy analysis, key operational efficiency projects and technology implementations. The focus is to reduce redundant manual processes, optimize business processes, provide analytical support for the customer and business impacts of policy changes, and assess credit risk and reduce bad debt exposure for the benefit of all SDG&E customers. Key Projects underway include a propensity to pay scoring model explained below in Section III.C.3.e. Business Optimization (FOF). The Credit Analytics Advisors will also analyze the delinquent final bill process and identify attributes that may increase the likelihood of receiving payment. They will use their findings to propose recommendations on how final bill accounts should be allocated either to in-house resources or sent to outside collections agencies. They would further assist with data requests from the CPUC and consumer advocate groups and provide information related to SDG&E's credit and collection activities. Moreover, they will be responsible for exception management, dashboard maintenance and reporting, metric reporting, issue investigation, and process optimization.

e. FOF - Business Optimization

I am requesting $106,000 in labor and $133,000 in non-labor above the BY 2016 base year to support the Business optimization effort within the Credit & Collections group. One of the key initiatives is to reduce energy theft through greater investment in the identification and resolution of potential energy diversion or theft. SDG&E has several mechanisms through which potential energy theft leads are identified, including but not limited to, meters that are listed as off in our records, but continue to register usage, unusual usage patterns, zero consumption on an active account, and meters that record a tampering signal. In addition, MRP receives leads from field technicians and customers. The MRP Specialists work and travel throughout SDG&E's service territory investigating MRP leads.

As described in Section V(D), another key initiative is to create a propensity to pay scoring model that offers a comprehensive solution that provides a better risk assessment for SDG&E. Based on various credit related data points, the new model would assess the customer's likelihood to make payments on their SDG&E bill and categorize them as low, medium or high risk. Using the new model will improve SDG&E's selection of the right approach to take with customers. For example, the company can tailor a risk-based treatment for Low/Med/High credit assessments, tie risk assessment/scoring into a deposit request, trigger additional deposit requests or continue to hold existing deposits based on credit risk, and ensure consistent treatments are presented with Pay Agreements across all three channels (IVR, Smart Energy Advisor Desktop (SEAD), and My Account). As a result of the customized approach presented above, this effort is expected to provide more timely and consistent communications to customers who are a higher credit risk.

f. Memorandum Accounts – RDMA

Residential Disconnection Memorandum Account (RDMA) was established pursuant to the 2014 Disconnection OIR Decision D.14-06-036 (also referenced in Rule 11.A.3.a). It was ordered that Vulnerable Customers not pay collections fees (field notice of $9/visit or field disconnection of $15/visit). These collection charges however were approved in GRC D.13-05-010 as part of miscellaneous revenue and were already included as part of the revenue requirement at that time. Because the 2014 disconnection OIR Decision came in between GRC cycles (TY 2012 and TY 2016), RDMA was established in 2014 to record the unbilled revenue of those field visits until December 15, 2015, i.e., until the TY 2016 GRC D.16-06-054 came into effect. The revenue requirement for the TY 2016 GRC did account for the Disconnection OIR Decision and hence no unbilled revenue was posted to the RDMA after that date. Based on the foregoing, the costs recorded by SDG&E in compliance with D.14-06-036 are reasonable and should be approved by the Commission. Additional information regarding regulatory accounts is provided in the direct testimony of SDG&E Regulatory Account witness Norma Jasso (Exhibit SDG&E-41). The Table JS-15 below shows the activity in this memorandum account.

TABLE JS-15
Residential Disconnect Memo Account - Electric

Year	Expenses	Interest		Account Balance
2014	8,879	5		$ 8,884
2015	54,851	70		$ 63,805
2016	0	316		$ 64,121
Jan-Jun 2017	0	271		$ 64,392

Residential Disconnect Memo Account - Gas

Year	Expenses	Interest		Account Balance
2014	3,805	0		$ 3,805
2015	23,509	31		$ 27,345
2016	0	135		$ 27,480
Jan-Jun 2017	0	116		$ 27,596

D. Remittance Processing

Table JS-16 below summarizes SDG&E's requested TY 2019 expenses for Remittance Processing.

TABLE JS-16
Forecast for Remittance Processing

CS - OFFICE OPERATIONS (In 2016 $)			
A. Customer Service Office Operations	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
4. Remittance Processing	785	745	-40
Total	**785**	**745**	**-40**

1. Description of Costs and Underlying Activities

Remittance Processing includes the expense for paper, envelopes, and vendor fees to deliver customer bills.

The calculations for the estimated expenses for Remittance Processing are included in workpapers (Ex. SDG&E-18-WP 1OO004.000).

2. Forecast Method

I chose to use a base year forecast method for TY 2019 for Remittance Processing because this workpaper group includes non-labor costs of software maintenance for My Account, vendor's fees for electronic bill delivery to customers' home banking websites, and billing forms and envelopes for paper bills and notices. These costs are driven by the volumes of bills, notices and payments that are impacted by customer growth as well as customer choice of billing and payment channels. For these reasons, the base year provides a reasonable starting point for future expenditures.

3. Cost Drivers

Table JS-17 below summarizes the changes in Remittance Processing Estimated Expenses for TY 2019.

TABLE JS-17
Changes in Remittance Processing TY 2019 Estimated Expenses

Remittance Processing	TY 2019 - 2016 Change (000s)			
	Labor	Non-Labor	Total	FTEs
Software Licensing Costs		7	7	
Increase of E-Bills Delivered		4	4	
Forms & Envelopes – reduction due to suppressed and electronic bills		-51	-51	
Total TY 2019 Impact		**-40**	**-40**	

a. Software Licensing Costs

I am requesting $7,000 in non- labor above the BY 2016 for licensing fees for SDG&E's My Account electronic bill payment and presentment software, which represents a 3% annual contractual increase.[6]

b. Increase of E-Bills Delivered

I am requesting $4,000 in non-labor above the BY 2016 due to increased vendor costs for the delivery of electronic bills to SDG&E's customers' home banking websites.[7]

c. Forms & Envelopes

The Remittance Processing TY 2019 forecast reflects a ($51,000) reduction in non-labor as the result of reduced costs for forms and envelopes due to suppressed[8] bills and electronic bills.

d. Rendering and Payment of Bills

I am requesting to modify Electric and Gas Rule 9, Rendering and Payment of Bills, to authorize SDG&E to default all SDG&E customers to receive electronic bills as their regular bill starting Jan 1, 2021. SDG&E recognizes that some customers may prefer to remain paper billed or may choose to return to paper billing. Customers may elect to be excluded from paperless billing electronically. SDG&E will develop a communication strategy to notify the customers of this change and will also develop a process to assist customers that request to be excluded from

[6] *See* supplemental workpaper 1 attached to Ex. SDG&E-18-WP 1OO004.000.

[7] *Id*.

[8] Suppressed bills are bills that are not mailed to customers because they have indicated they no longer need a paper bill.

paperless billing and/or customers choosing to return to paper billing after transitioning to paperless. Any savings associated with adoption of paperless billing would be made to SDG&E's authorized revenue requirement in a future GRC.

E. Postage

Table JS-18 below summarizes SDG&E's requested TY 2019 expenses for Postage.

TABLE JS-18
Forecast for Postage

CS - OFFICE OPERATIONS (In 2016 $)			
A. Customer Service Office Operations	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
5. Postage	4,160	3,856	-304
Total	**4,160**	**3,856**	**-304**

1. Description of Costs and Underlying Activities

Postage includes the expense for mailing customer bills and notices through the United States Postal Service (USPS).

The calculations for the estimated expenses for Postage are included in workpapers (Ex. SDG&E-18-WP 1OO004.001).

2. Forecast Method

I chose a base year forecast method for TY 2019 for Postage because expenses depend on postage rates that are determined by the USPS, and the volume of paper bills and notices, which are impacted by customer growth as well as electronic bill adoption levels. The last recorded year accurately reflects the expense level associated with these cost drivers, therefore, the base year provides a reasonable starting point for future expenditures.

3. Cost Drivers

Table JS-19 summarizes the changes in Postage estimated expense for TY 2019.

TABLE JS-19
Changes in Postage TY 2019 Estimated Expenses

Postage	TY 2019 - 2016 Change (000s)				
	Labor	Non-Labor	NSE	Total	FTEs
Postage for Meter Growth			365	365	
Postage Costs decrease – rate changes			-30	-30	
Postage Savings – paperless			-661	-661	
Postage Savings decrease – rate changes			22	22	
Total TY 2019 Impact			**-304**	**-304**	

a. Postage for Meter Growth

I am requesting $365,000 in non-labor above the BY 2016 for increased postage costs related to meter growth[9] due to the anticipated increase in new customers who automatically receive paper bills. The projected rate of paper bills and notices per meter in TY 2019 is 6.59.

b. Decreased Postage Cost

The Postage workgroup TY 2019 forecast includes a ($30,000) reduction in postage costs as a result postal rate changes[10].

c. Postage Savings

The TY 2019 Postage forecast reflects a ($661,000) reduction for postage costs resulting from additional customers choosing to receive their bill via electronic statements.[11] The projected rate of electronic bills per meter in TY 2019 is 6.17.

d. Postage Savings Due to Paperless Bills

I am requesting $22,000 in postage cost above the BY 2016 for decrease in postage savings for customers who are paperless, resulting from postal rate changes.[12]

F. Branch Offices and Authorized Payment Locations

Table JS-20 below summarizes SDG&E's requested TY 2019 expenses for Branch Offices and Authorized Payment Locations (APLs).

[9] *See* supplemental workpaper 2 attached to Ex. SDG&E-18-WP 1OO004.001.

[10] *Id*.

[11] *Id*.

[12] *Id*.

TABLE JS-20
Forecast for Branch Offices and APLs

CS - OFFICE OPERATIONS (In 2016 $)			
A. Customer Service Office Operations	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
6. Branch Offices	1,979	2,209	230
Total	**1,979**	**2,209**	**230**

1. Description of Costs and Underlying Activities

SDG&E provides local payment offices and customer services through a network of Branch Offices and APL. SDG&E operates five dedicated Branch Office facilities and two shared Branch Office facilities (Downtown Branch Office-California Coast Credit Union and the Oceanside Branch Office-UPS Store, which is now closed). SDG&E contracts with a third-party vendor that provides a network of approximately 59 APLs. These APLs provide similar payment services in addition to credit and debit card options at select APLs, convenient locations, and extended hours for SDG&E customers.

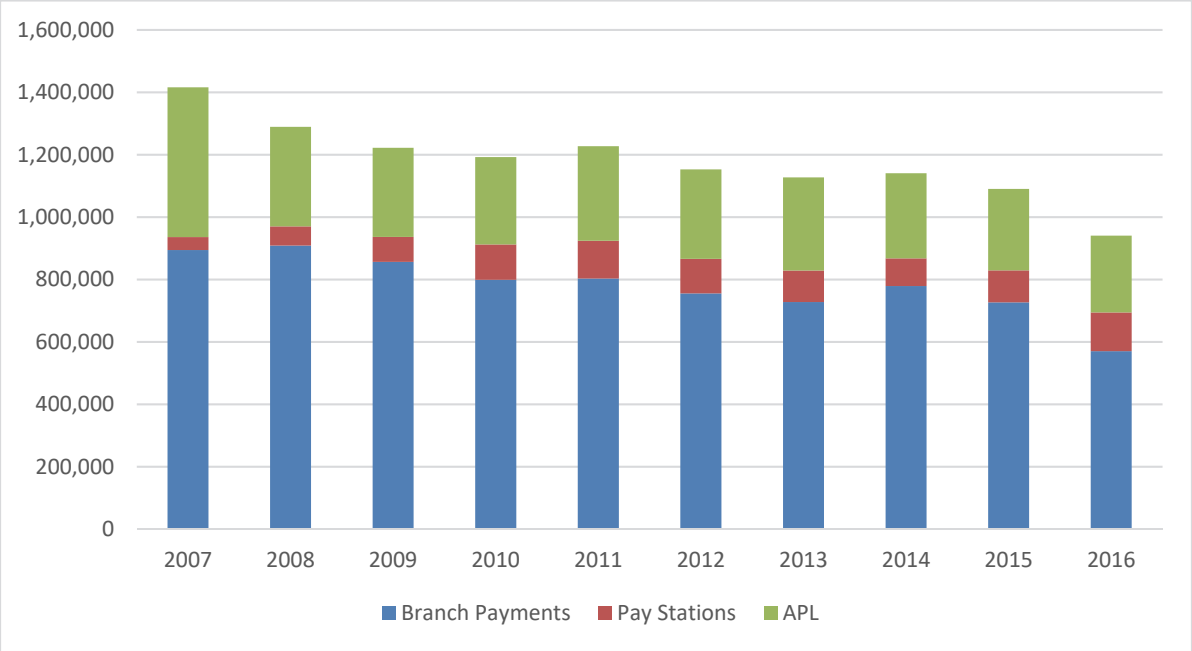
SDG&E continues to experience a decline in Branch Office and APL payments as shown in Figures JS-2 and JS-3 below; therefore, SDG&E is proposing to close the two lowest performing and least cost-effective Branch Offices. One of those offices, the Oceanside Branch Office, no longer serves as a branch office. The UPS Store decided its partnership with SDG&E must discontinue due to co-branding and exclusivity agreements between the franchise and UPS corporate. The details of the closure are provided later in this section.

The calculations for the estimated expenses for Branch Offices are included in workpapers (Ex. SDG&E-18-WP 1OO005.000).

FIGURE JS-2
Branch Office and APL Payment Transaction Summary

Branch Office and APL Payment Transactions										
Transaction Type	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Branch Payments	894,280	908,771	856,252	799,037	803,144	755,242	727,673	778,920	726,694	570,323
Pay Stations	41,575	61,350	80,238	112,979	120,812	110,765	101,160	88,402	102,280	123,769
APL	479,738	318,893	285,322	280,260	302,917	286,491	298,114	273,084	261,080	246,130
Sub-Total Branch & APL Pmts	1,415,593	1,289,014	1,221,812	1,192,276	1,226,873	1,152,498	1,126,947	1,140,406	1,090,054	940,222

FIGURE JS-3
Summary by Transaction Type



2. Forecast Method

I chose to use a base year forecast method for TY 2019 for Branch Offices because the last recorded year accurately reflects the expense level associated with current departmental activity. In early BY 2016, a market job study was conducted by SDG&E Human Resources to evaluate and standardize the job profiles of the ESS, and Energy Service Associate (ESA) classifications to more accurately reflect the work performed by these classifications. The reclassification resulted in a compensation analysis and the ESS/ESA salaries were adjusted upward effective July 2016. Therefore, the base year provides a reasonable starting point for future expenses.

3. Cost Drivers

Table JS-21 summarizes the changes in Branch Offices estimated expenses for TY 2016

TABLE JS-21
Changes in Branch Offices TY 2019 Estimated Expenses

Branch Offices	TY 2019 - 2016 Change (000s)			
	Labor	Non-Labor	Total	FTEs
Salary Differential - ESS/ESA wage adjustment	44		44	
Non-labor adjustment		-45	-45	
ADA Compliance	150	130	280	1.0
Business Optimization – (FOF) (Reference: Capital Project #19001 Branch Office Kiosk Replacement)	-361	312	-49	-8.0
Total TY 2019 Impact	**-167**	**397**	**230**	**-7.0**

a. Salary Differential – Wage Adjustment

I am requesting a $44,000 increase in labor above the BY 2016 for the Branch Office full year impact staff wage adjustment. As the result of changing business drivers, the ESS and ESA job profiles were updated based on a market job study conducted to reflect the current duties and skills necessary to perform the job responsibilities for this area. The changes included greater emphasis on energy consulting, service offerings, rate and technical support, as well as industry knowledge and energy trends. Hence, ESS and ESA position salaries were adjusted upward effective July 2016 commensurate with the industry. The full year impact of the wage adjustment results in a $44,000 labor increase in TY 2019.

b. Non- Labor Adjustment

The Branch Office forecast includes a ($45,000) reduction in non-labor for the decrease in expenses for a contracted resource in the Branch Office lobbies. In BY 2016, SDG&E Branch Offices contracted temporary agency labor to help customers adapt and utilize new technologies implemented in the branch offices, such as the queue management system and lobby computers, to name a few, while also informing customers of self service options and other services including rate options. The customers have adjusted and SDG&E employees are now trained and available to provide the same level of support, hence the temporary resource is no longer needed.

c. ADA Compliance

I am requesting a $150,000 increase in labor and a $130,000 increase in non-labor above the BY 2016 to ensure Americans with Disabilities Act (ADA) compliance and improve

accessibility for customers. This increase will cover the costs associated with adding an SDG&E ADA Project Manager position and for costs associated with understanding and maintaining current information regarding state and federal laws and regulations, as well as best practices by attending ADA conferences and various customer focused outreach events, training and materials, and participation in Americans with Disabilities organizational events. The ADA Project Manager position will support ADA compliance-related activities throughout SDG&E as ADA standards and regulations continue to change particularly in regards to publicly accessible facilities and communications channels. In addition to accessibility to Company facilities, other issues to be addressed include APLs, access to Pedestrian Rights of Way, and access to SDG&E's website, written communications, and emergency communications systems.

d. FOF - Business Optimization - Branch Office Kiosk Replacement and Expansion

The Branch Office TY 2019 forecast includes a ($49,000) reduction due to the Business Optimization opportunity identified during the FOF initiative. Under this initiative, Branch Offices would replace and expand self-service kiosks throughout their payment facilities, which would result in labor savings of $361,000. However, there would need to be an investment in self-service-related items, hence non-labor cost would increase by $312,000 for kiosk services, annual maintenance agreements, and additional DSL line telecommunications costs. The replacement and expansion of the kiosk services are referenced in the Capital Projects section, where added features and benefit details can be found under project T19001 in Section V of this testimony.

e. Closure of Branch Offices

SDG&E is requesting approval to close two of its Branch Offices located at the Oceanside and Downtown locations. The Oceanside Branch Office was located inside the UPS Store, a partnership with SDG&E. However, the UPS Store corporate offices determined that the partnership between SDG&E and the local franchise where the branch office was located must discontinue due to co-branding and exclusivity agreements between the franchise and corporate offices. After the local UPS Store notified SDG&E of its intent to terminate the Service and Lease agreements, on December 22, 2016, SDG&E advised the CPUC of the upcoming involuntary closure of the Oceanside Branch Office. Effective January 23, 2017, the UPS Store no longer serves as a branch office and, as of March 1, 2017, no longer serves as an

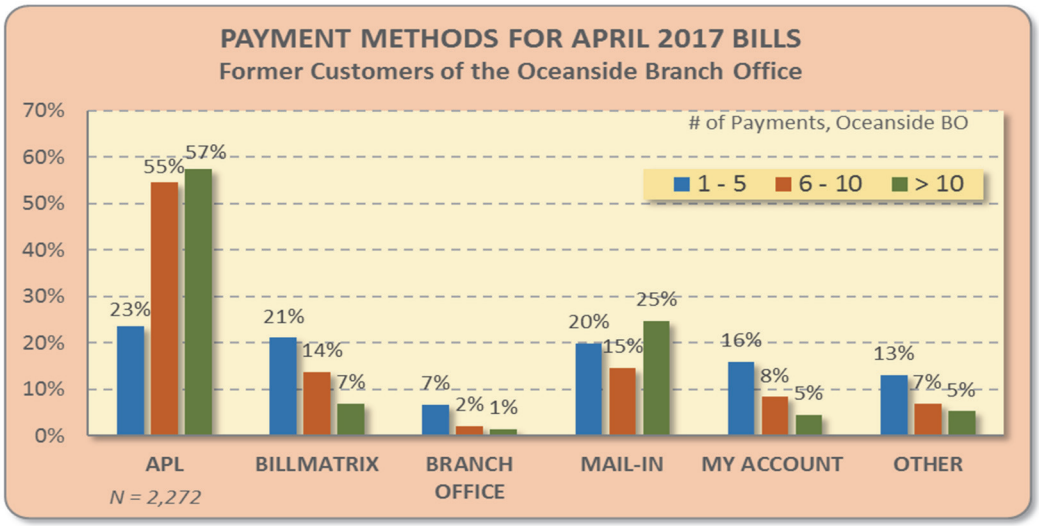
APL. When this location was operational, customers could pay through a UPS Store employee who processed payments using the APL system. Additionally, self-service options included an ExpressPay kiosk that processed cash and check payments, and a ring down phone that connected the customer with an agent in the CCC to assist with non-payment services including, payment arrangements, new service requests and billing inquiries.

Upon notice that the UPS Service and Lease agreements for the Oceanside location would terminate in a month, SDG&E prepared and implemented a customer notification plan for all customers who had visited the Oceanside location within the last 12 months. Those customers were notified of the closure by direct mailer, local newspaper ads, flier handouts and local community outreach centers and were provided information on alternate locations and payment options. All communication and collateral was delivered in English and Spanish. The timeline for the customer notification was as follows:

- 1/11/17 – posters and fliers with closure and nearby APL referral information placed in lobby area, and removed on March 5, 2017;
- 1/13/17 – Letter mailed to customers who made a payment at the Oceanside Branch Office within the last 12 months;
- 1/13/17 – Local newspaper ad (English) Coastal News; and
- 1/14/17 – Local newspaper ad (Spanish) Hoy San Diego.

After the closure of this location, an analysis was conducted to study the impact of the closure on SDG&E customers who received service at this location. The study found that 98% of customers who visited the Oceanside/UPS Store branch office more than once within the last 12 months prior to the closure used something other than a branch office to process their payment. The data shows that these customers have found alternate options or locations to make their payment as shown in Figure JS-4 below:

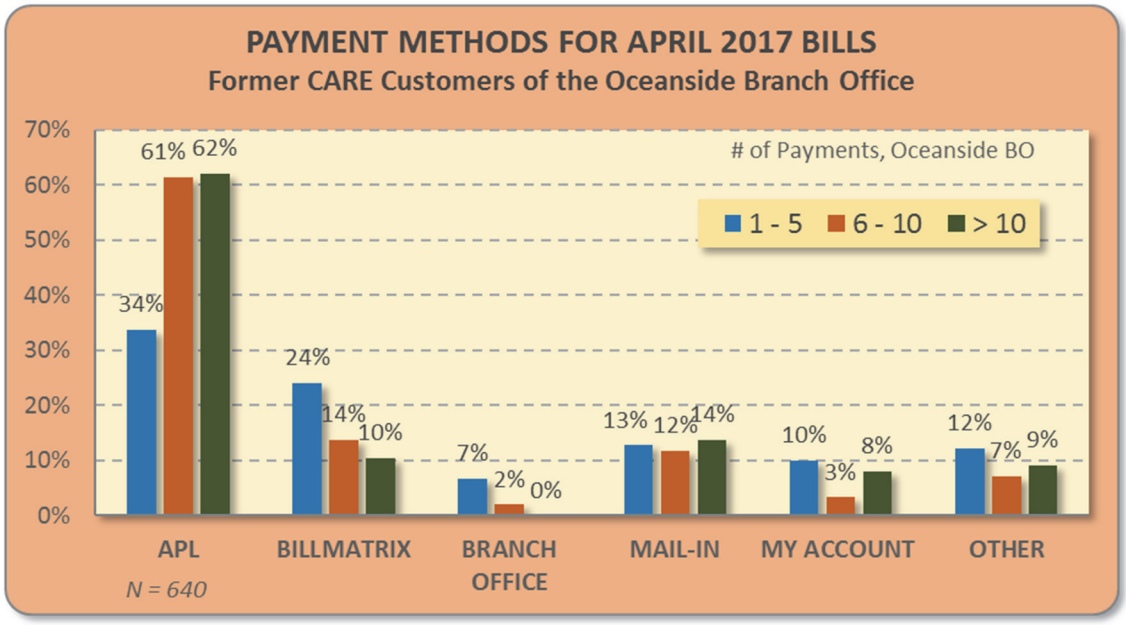
FIGURE JS-4



More than 57% of the customers who regularly used the Oceanside Branch Office have since made their payments at a nearby APL, 25% mailed payments in, 7% made credit card payments via Bill Matrix, 5% used MyAccount, 1% transacted at the closest branch office, and 5% used other methods, including bank payments and pay-by-phone.

Data also indicates that 62% of California Alternate Rates for Energy (CARE) customers who regularly visited the Oceanside Branch Office are now visiting APLs to make their payments, 14% mailed, 10% credit card payments via Bill Matrix, 8% MyAccount and the remaining used other means including bank payments, Energy Assistance – LIHEAP, ExpressPay machines, Pay-By-Phone, and automatic debit as shown in Figure JS-5 below:

FIGURE JS-5



Furthermore, since the closure on January 23, 2017, SDG&E has not received any comments or complaints from customers in regards to the closure. As of now, SDG&E has been unsuccessful in finding a replacement office and will continue to search unless or until it receives a formal closure decision from the CPUC.

The Downtown Branch Office is located inside the California Coast Credit Union[13] and staffed by an SDG&E employee who processes payments using SDG&E's Payment Entry Processing (PEP) system, and performs non-payment services including payment arrangements, new service requests, and billing inquiries. An additional self-service option includes an ExpressPay kiosk, which processes cash and check payments. This office is the lowest volume Branch Office in SDG&E's service territory (after Oceanside) and has been experiencing a long-term downward trend in payment transactions as illustrated in Figure JS-6 and Table JS-22 below.

[13] The location for California Coast Credit Union is currently in escrow and this may have an impact on SDG&E operations out of this location in the near future.

FIGURE JS-6
Payment Transaction by Branch Office Locations

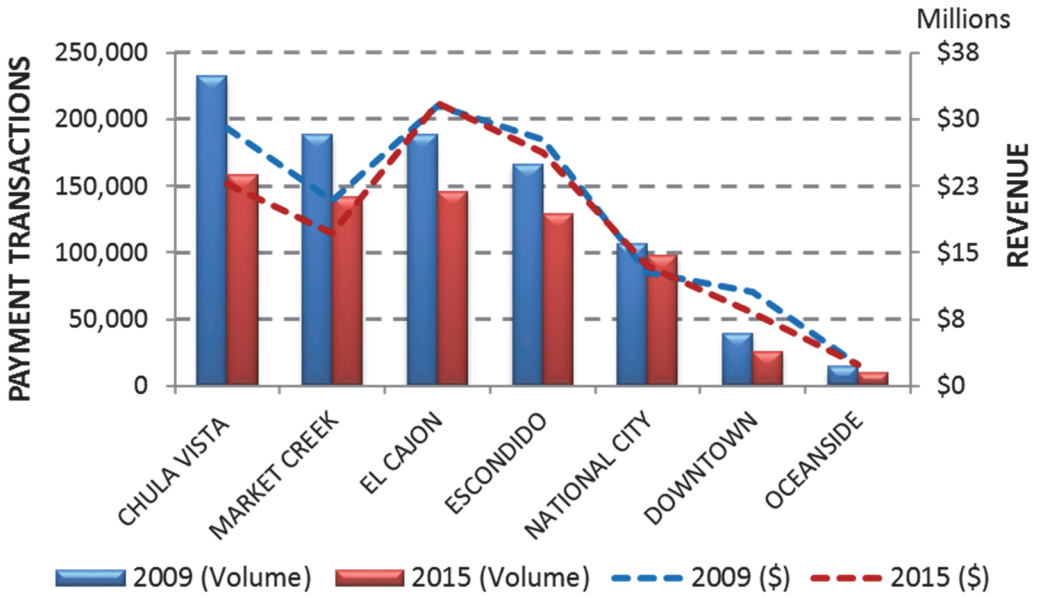
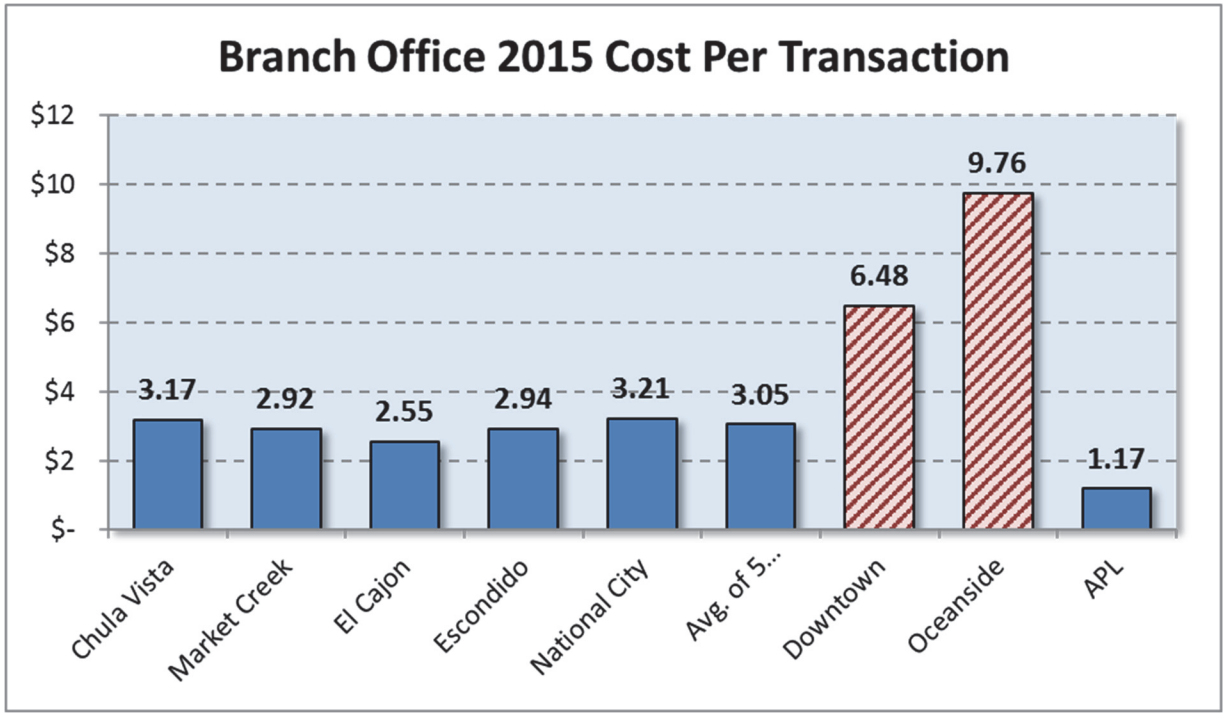


TABLE JS-22
Branch Office Volume of Payments

Branch Office	2012	2013	2014	2015	2016
Chula Vista	184,399	200,201	150,008	158,194	118,859
Downtown	32,907	33,785	28,105	25,988	25,764
El Cajon	146,757	159,404	135,655	146,054	128,167
Escondido	123,035	143,831	111,526	128,929	102,439
Market Creek	140,366	167,738	121,170	141,697	104,279
National City	100,209	109,302	92,284	98,344	90,815
Oceanside	16,664	14,722	10,903	9,980	8,946

Furthermore, both the Oceanside Branch Office and Downtown Branch Office have the highest cost per transaction of all the Branch Offices as shown in Figure JS-7 below. Therefore, in the interest of our customers, permanent closure of the Downtown and Oceanside offices is warranted, and the associated cost savings should be passed on to customers.

FIGURE JS-7



The data shows that an overwhelming majority of transactions handled at SDG&E's Branch Offices are payment transactions. As shown in Table JS-23 below, within SDG&E's Branch Offices, non-payment transactions constituted about 4% of the total Branch Office Transactions in 2016.

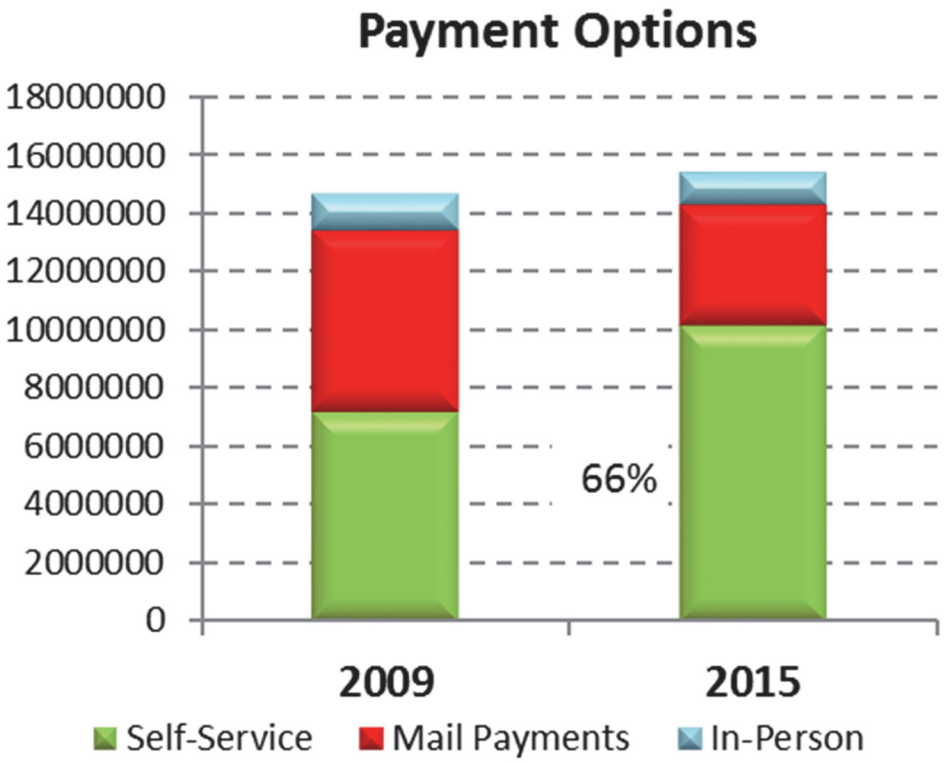
TABLE JS-23

Branch Office Payment and Non-Payment Transactions		
Transaction Type	**2016**	**% of Total**
Branch Payments	570,323	
Pay Stations	123,769	
APL	246,130	
Total Payment Transactions	940,222	**96%**
Service Orders	25,790	
Program Enrollments	11,610	
Total Non-Payment Transactions	37,400	4%
Total	977,622	

Furthermore, as shown in figures JS-8 and JS-9 below, customer preferences over the last several years have revealed that self-service options have grown significantly and traditional

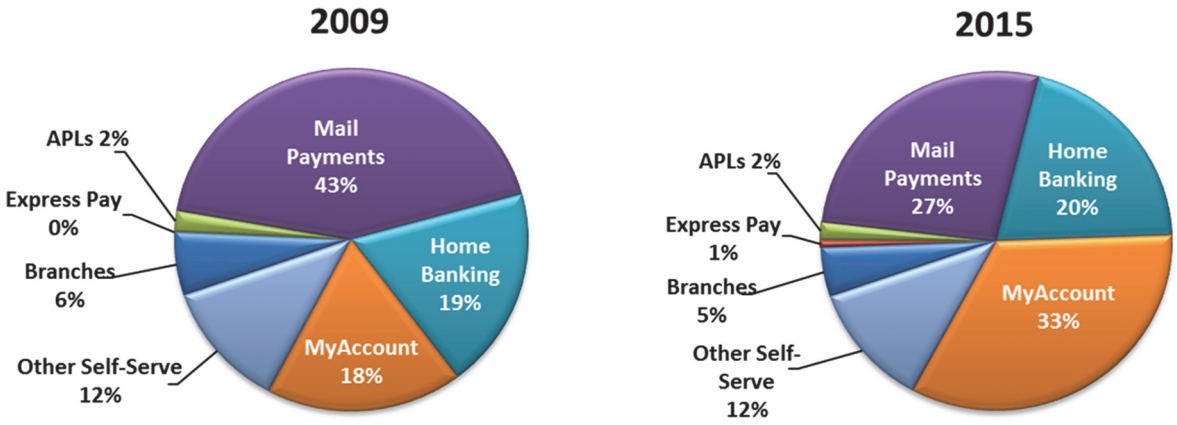
payment options, such as making a payment at a Branch Office, have declined. This can be attributed to the increased availability and sophistication of self-service payment options, including paying through My Account, Bill Matrix,[14] home banking, automatic debit, electronic data interchange (EDI), and pay-by-phone through SDG&E's IVR System. Service orders and assistance with program enrollments can also be completed over the phone. 94% of SDG&E Residential customers have a phone number associated with their account. Other traditional payment options are still available, such as mail and APLs, making the need to visit a Branch Office unnecessary. Figure JS-8, and JS-9 shows the distribution of customer payment options.

FIGURE JS-8
SDG&E Customer Payment Options



[14] Customers can use most ATM cards, debit cards, MasterCard® and Visa® credit cards and electronic checks to pay their bill. These payment options are offered through Bill Matrix, an independent service provider.

FIGURE JS-9



As the result of closing the Downtown and Oceanside locations, SDG&E customers should realize annual cost savings of approximately $278,900 per year in operational costs less one-time closure expenses of approximately $52,712 as shown in Table JS-24 below.

Table JS-24
Branch Office Closure Savings

Annual Savings	
Closure of two branch offices	$ 305,404
Estimated annual costs of one APL in Oceanside	$ (2,080)
Estimated annual APL costs for increased volume	$ (24,366)
Subtotal	**$ 278,958**
One Time Costs	
One time communication costs	$ (52,712)
Total	**$ 226,246**

The cost savings assumes 40% of customers would move to self-service and 60% would continue with in-person payments (either via an APL or another existing Branch Office). The following testimony demonstrates why the closure of each office will reduce costs to customers and will not diminish service to customers.

- Downtown Branch Office

The Downtown Branch Office is located inside the California Coast Credit Union and staffed by an SDG&E employee who processes payments using SDG&E's PEP system, and performs non-payment services including, payment arrangements, new service requests and billing inquiries. Additional self-service options include an ExpressPay kiosk, which processes cash and check payments. This office is the lowest volume Branch Office in SDG&E's service

territory (after Oceanside) and has been experiencing a long-term downward trend in payment transactions. The cost per transaction for the Downtown Branch Office in 2016 was $6.48 mainly due to the high cost of staffing with an SDG&E employee and the low volume of payment transactions processed at this office.

The Market Creek Branch Office is within six miles of the Downtown Branch Office and there are currently four APLs available within a three-mile radius of this office (five additional APLs within a five-mile radius). One of these four APLs is equipped with a courtesy phone that connects to the CCC, two APLs provide POS IDs, and all APLs are ADA compliant. The four APLs are convenient for customers utilizing public transportation. Transportation service is provided by San Diego Metropolitan Transit Systems, which offers both bus and trolley services in this area and leading to other locations.

The percentage of cash payments reported by the Downtown Branch Office in 2016 was 27%. The median household income in Downtown is $52,188 compared to the 2017 CARE income guideline of $32,480. Approximately 36% of customers that paid at the Downtown Branch Office in BY 2016 were identified as CARE customers, which is the lowest percentage of all operating Branch Office locations.

The Downtown Branch Office's estimated annual savings are $215,682.

- Oceanside Branch Office

The Oceanside Branch Office was located in a UPS Store as part of a joint partnership with SDG&E. Customers could process their payments with a UPS Store employee or through the ExpressPay machine located in the lobby. Additionally, a Virtual ESS machine equipped with video conferencing and a courtesy phone allowed customer interaction with an ESS who could process service orders, POS IDs, program enrollments, and other assistance provided by a traditional Branch Office.[15]

There are currently two APLs available within a three-mile radius of this former office (four additional APLs within a five-mile radius). Of the six APLs that are within a five- mile radius, two are equipped with courtesy phones to connect to the CCC, two provide POS IDs, and all APLs are ADA compliant. Public transportation around the Oceanside area is provided by

[15] The Oceanside location is no longer operational. On December 22, 2016, SDG&E advised the CPUC of the upcoming involuntary closure of the Oceanside Branch Office.

the North County Transit District, which offers Coaster, Sprint, Breeze, Flex and Lift services. While Breeze (bus) service is available, the walking distance from a bus stop to these APLs is between 0.7 mi and 1.2 mi.

The percentage of cash payments reported by the Oceanside Branch Office in BY 2016 was 73%. The median household income in the city of Oceanside is $67,639 compared to the 2017 CARE income guideline of $32,480. Approximately 30% of customers that paid at the Oceanside Branch Office in BY 2016 were identified as CARE customers.

There is no impact to SDG&E employees as the office was staffed by UPS Store employees. Estimated annual savings for the Oceanside Branch Office is $89,722.

- Closure Communications

SDG&E provides clear and timely notice to affected customers by distributing advance notifications in English and Spanish to customers in the potentially affected communities. The notices distribution occurs a minimum of 60 days prior to closure and advises customers that the Branch Office will be closing. Notices explain each of SDG&E's payment and service options and provide customers with self-service options, website links, and telephone numbers to assist them in learning about the many alternative payment and service options. By providing these notices, customers will have at minimum of two, and up to three, full billing cycles to adjust how they tender their payments and how and where they obtain information from SDG&E. SDG&E provides such notices using the following forms of communication:

- Newspaper ad in local publications in the counties served
- Direct mail letter to affected customers
- Flyers/postcards at the offices – includes directions to nearby Branches and/or APLs
- Branch Office signage – includes directions to nearby Branches and/or APLs
- Referral through the IVR System
- Notices on sdge.com

SDG&E's Public Affairs representatives will attend City Council meetings for the City of San Diego to advise the Council of the proposed office closures. Inserts regarding the proposed office closings are planned to be included in newsletters of the local Chamber of Commerce.

Customer complaints and/or concerns will be tracked in SDG&E's Comment Tracking System, and any escalated inquiries will be handled by the Branch Office Manager.

For the reasons described above, the Branch Office closures would be beneficial to our customers from a cost savings perspective and would not diminish services available to them, including SDG&E's low-income customers.

G. Customer Contact Center Operations

Table JS-25 below summarizes SDG&E's requested TY 2019 expenses for CCC Operations.

TABLE JS-25
Forecast for CCC Operations

CS - OFFICE OPERATIONS (In 2016 $)			
A. Customer Service Office Operations	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
7. Customer Contact Center Operations	8,937	10,096	1,159
Total	**8,937**	**10,096**	**1,159**

1. Description of Costs and Underlying Activities

The CCC expenses cover the costs of answering customer telephone calls; responding to incoming email from customers; responding to customer inquiries through on-line chat features; answering written customer correspondence regarding customer account activity; following up on all CPUC telephone referrals and informal and formal customer complaints; and, responding to other customer account-related inquiries.

Through a variety of toll-free telephone numbers, SDG&E responds to emergency calls 24 hours per day, 365 days per year from a myriad of residential, commercial, industrial, and agricultural customers.

SDG&E CCC agents have evolved from the prior role as transaction-focused agents to their new role as an ESS, serving as an ESS who performs not only transactions but also provides customer support on complex billing issues, applicable rate choices, and the offering of tools and solutions to aid in energy or bill reduction. Calls are routed to the first available ESS with the right skillset to address the customer's need. With its own representatives, SDG&E provides telephone service in English, Spanish, and Vietnamese. SDG&E also provide services in other languages via Language Line Services and for the hearing-impaired.

The calculations for the estimated expenses for CCC operations are included in workpapers (Ex. SDG&E-18-WP 1OO006.000).

2. Forecast Method

I chose to use a base year forecast method for TY 2019 for CCC Operations because the last recorded year accurately reflects the expense level associated with current departmental activities. The dynamics of various communication channels (phone, IVR and web) and progressive improvements in self-service, additional training of ESSs, additional focus on effective call handling, increased call volumes, level of service (LOS), average handle times (AHT), agent occupancy,[16] shrinkage,[17] and standardized call scripting collectively impact CCC Operations. Additionally, the 2016 base year actual performance results were preferred over historical averages because changes in customer preferences of communication channel (phone, web, email, chat, mobile) and self-service channel improvements (IVR, web and mobile) have impacted ESS-handled calls in the last five years. The BY 2016 individual transactions per electric meter (Table JS-26 below) is applied to projected electric meter volumes to obtain ESS transaction volumes (Table 27 below).

[16] Agent occupancy, also known as agent utilization, is defined as a percentage of time call agents spend handling incoming calls, including after call work against the staff time or total amount of time they are plugged in and ready and waiting for calls to arrive. Occupancy is calculated by dividing call-handling time, including after call work by staff time.

[17] Shrinkage is defined as the time for which call agents are paid during which they are not available to handle calls. It is a measure of how much time is lost in the CCC to things like vacation, breaks, lunch, holidays, sick time, absenteeism, training, meetings, etc. Shrinkage is calculated by dividing total lost time by total paid time.

TABLE JS-26
ESS Historical Call Volume and Forecast

Year	Total ESS Calls	Electric Meters	Calls Per Meter
2008	2,449,930	1,368,060	1.79
2009	2,436,338	1,375,326	1.77
2010	2,353,875	1,382,924	1.70
2011	2,242,137	1,390,704	1.61
2012	2,127,497	1,397,678	1.52
2013	2,066,645	1,405,218	1.47
2014	1,833,573	1,412,939	1.30
2015	1,587,919	1,421,829	1.12
2016	1,490,751	1,430,175	1.04
2017 (Fcst)	1,501,950	1,440,919	**1.04**
2018 (Fcst)	1,515,931	1,454,332	**1.04**
2019 (Fcst)	1,530,587	1,468,392	**1.04**
	Average (2012-2016) Calls Per Meter		**1.29**

TABLE JS-27
Total Customer Contacts and Transactions
2012 – TY 2019

Year	ESS Calls	% of Total	IVR Calls	% of Total	Web & Mobile	% of Total	Email	% of Total	Chat	% of Total	Total Contacts
2012	2,127,497	74.15%	521,666	18.18%	63,620	2.22%	156,330	5.45%	0	0.00%	2,869,113
2013	2,066,645	72.76%	535,836	18.86%	171,461	6.04%	62,209	2.19%	4,295	0.15%	2,840,446
2014	1,833,573	66.90%	671,349	24.50%	176,147	6.43%	50,711	1.85%	8,905	0.32%	2,740,685
2015	1,587,919	44.73%	785,249	22.12%	1,094,708	30.84%	70,394	1.98%	11,731	0.33%	3,550,001
2016	1,490,751	41.79%	819,676	22.98%	1,158,408	32.47%	88,442	2.48%	10,190	0.29%	3,567,467
2017 (Fcst)	1,501,950	41.79%	825,834	22.98%	1,167,110	32.47%	89,106	2.48%	10,267	0.29%	3,594,267
2018 (Fcst)	1,515,931	41.79%	833,521	22.98%	1,177,974	32.47%	89,936	2.48%	10,362	0.29%	3,627,723
2019 (Fcst)	1,530,587	41.79%	841,579	22.98%	1,189,363	32.47%	90,805	2.48%	10,462	0.29%	3,662,797
16 to 19 Growth	39,836	2.67%	21,903	2.67%	30,955	2.67%	2,363	2.67%	272	0.29%	95,330

Note: Starting in 2015, the following web transactions have been added, captured and reported to self-service: billing information updated by customers, self-serviced letters of credit and residence, self-serviced subscriptions to usage goal and outage alerts, self-serviced enrollments to paperless billing.

The base year forecast method is also used for CCC Operations non-labor because the last recorded year accurately reflects the expense level associated with current departmental activities. These non-labor expenses primarily consist of employee-related expense, office

supplies, office furniture, and headsets. (Communications, annual software maintenance, and telecommunication costs are captured under the CCC Support non-labor category).

Furthermore, in early 2016, a market job study was conducted by SDG&E Human Resources to evaluate and standardize the job profiles of the ESS classifications to more accurately reflect the work performed by these classifications, and market-based compensation levels. As a result, ESS salaries were adjusted upward effective July 2016. Therefore, the base year provides a reasonable starting point for future expenses.

3. Cost Drivers

Table JS-28 summarizes the changes in the CCC Operations estimated expenses for TY 2019.

TABLE JS-28
Changes in CCC Operations TY 2019 Estimated Expenses

CCC Operations	TY 2019 - 2016 Change (000s)			
	Labor	Non-Labor	Total	FTEs
Salary Differential - ESS wage adjustment	350		350	
Labor Reduction (overtime payout for non-exempt)	-78		-78	
Customer Growth – call volume increase	105		105	1.9
Residential TOU Mass Default	588		588	9.5
RAMP-Post Filing – Capture customer email	166		166	3.0
CARE enrollments by ESS	83		83	1.5
Capital Project Impacts – IVR Enhancement (Reference: Capital Project #19031)	-30		-30	-0.5
Business Optimization – FOF	-276	251	-25	-5.9
Total TY 2019 Impact	**908**	**251**	**1,159**	**9.5**

a. Salary Differential – ESS Wage Adjustment

I am requesting $350,000 in labor over BY 2016 for the full year effect ESS wage adjustments. As the result of changing business drivers, the ESS job profile was updated to reflect the current duties and skills necessary to perform the job. The changes included greater emphasis on energy consulting, service offerings, rate and technical support, as well as industry knowledge and energy trends. The market job study was conducted by SDG&E Human Resources to evaluate and standardize the job profiles of the ESS classifications to more

accurately reflect the work performed by these classifications. This resulted in a compensation analysis and ESS salaries were adjusted upward effective July 2016.

b. Labor Reduction (Overtime Payout for Non-Exempt Employees)

CCC Operation's TY 2019 forecast reflects a ($78,000) reduction in labor forecast to remove a one-time overtime payout for non-exempt employees. In BY 2016, CCC Associate Supervisors were re-classified from Management Exempt to Management Non-exempt. The reclassification triggered a one-time payout for overtime that Associate Supervisors had worked in 2014 through 2016. The one-time pay-out of $78,000 is non-recurring in later years.

c. Customer Growth – Call Volume

I am requesting $105,000 in labor above the BY 2016 for 1.9 FTEs to support the increase in call volume expected to result from customer growth. Based on the meter growth forecast, it is estimated that the call volume will increase by approximately 40,000 calls in TY 2019, therefore requiring additional FTEs to support customer needs. These FTEs will respond to billing and payment inquiries, requests for customer assistance program information, offer appropriate rate options to customers, provide energy conservation solutions, and other miscellaneous requests.

d. Residential TOU Mass Default

I am requesting $588,000 in labor above BY 2016 to provide support for the Residential TOU Mass Default. This expense is the normalized labor cost for 9.5 FTE over three years (2019-2021).[18] As referenced in Section III.A.3.f, IOUs were ordered to implement a default residential TOU pilot program no earlier than January 1, 2018, in preparation for the full roll out of default residential TOU rates in TY 2019. Like the small and medium business TOU default, residential customers that default to these new rates schedules will be offered bill protection at the end of a relevant period.

The TOU Mass Default will drive more customers to call for billing and rate inquiries. Not only will the call volume increase, the average handle time will also increase because of the complexity of the call. It is estimated that billing calls will increase by over 167,000 in 2019, and

[18] If the four year GRC cycle is adopted, as proposed in the testimony of Kenneth Deremer (Exhibit SDG&E-43), then this calculation will need to be revised to reflect that.

82,000 in 2020, and the average handle time will increase from 410 seconds to 500 seconds. The overall increase will require 9.5 additional FTEs to service customers.

As detailed in Section III.A.3.f, SDG&E is requesting this incremental forecast in the TY 2019 GRC, and intends to present the same forecasted requirements in SDG&E's Mass Default Advice Letter (to be filed in Q4 2017). Adjustment will be made to SDG&E's authorized revenue requirement if SDG&E's request is approved in the Mass Default Advice Letter, enabling SDG&E to record the TOU Mass Default expense in the RRMA.

e. RAMP-Post Filing – Capture Email Addresses

I am requesting $166,000 in labor above the BY 2016 for 3 FTEs to support the post-RAMP effort for updating customer information and validating customer data. The program will enhance the customer information database by updating customer contact information that will improve facility access processes such as supporting leakage survey and inspection of above ground pipeline by validating and/or capturing the callers' email address. Maintaining accurate contact information enables timely notification to customers regarding potential events that could pose an immediate or future threat to public safety. By leveraging multiple communication methods, customers are more likely to receive critical information and take appropriate action. While ESS's already capture and validate customer telephone numbers, the requested expense will enable the ESS's additional time to capture email addresses of customers who have not signed up for My Account and to verify email addresses of existing MyAccount customers. The activity is estimated to increase the handle time of over 1 million calls by 15 seconds.

f. CARE Enrollments by ESS

I am requesting $83,000 in labor above the BY 2016 for CARE enrollment to be offered by ESS as per the CPUC D.14-06-036. The CARE program provides customers who meet income and household size guidelines with a 20% discount off their SDG&E bill.[19] The CCC will continue to provide CARE enrollments by phone via the ESS as agreed to in the Residential Disconnection OIR proceeding (R.10-02-005) settlement agreement adopted by CPUC D.14-06-036.[20]

[19] For CARE program guidelines, see SDG&E's CARE tariff: http://regarchive.sdge.com/tm2/pdf/ELEC_ELEC-SCHEDS_E-CARE.pdf.

[20] On April 1, 2014, in R.10-02-005, a Settlement Agreement among SoCalGas/SDG&E, SCE, PG&E and the following Consumer Groups (Office of Ratepayer Advocates, The Utility Reform Network,

Annually, approximately 25,000 customers request CARE applications through an ESS. The ESS mails the application to the customer, and SDG&E may or may not receive the application back from the customer. By having the ESS take the application over the phone, SDG&E expects to process 80%, or 20,000 applications, through an ESS. Additional handle time is required to conduct the application process over the phone. Thus, 1.5 ESS are required to expand the CARE enrollment process in 2019, at the estimated cost of $83,000.

g. Capital Project Impacts – IVR Enhancement (Capital Project #T19031 FOF – IVR Project)

CCC Operations TY 2019 forecast reflects a ($30,000) in labor reduction to account for the efficiency achieved by the IVR enhancement capital project #T19031. Enhancements to the IVR will add the self-service function for customers who would like to request gas turn-off for fumigation. Currently customers submit requests for gas turn-off for fumigation via phone, email or fax. ESSs manually process the requests, schedule the turn-off date and respond back to customers using similar outbound channels. This IVR enhancement will allow customers to schedule gas turn-off via the IVR automated system, thus reducing workload by an equivalent of 0.5 FTE, for a savings of $30,000.

h. FOF - Business Optimization

The CCC TY 2019 forecast reflects a ($25,000) net reduction, which is a ($276,000) reduction in labor and a $251,000 increase in non-labor resulting from process improvement, business optimization as well as contracting/procurement efficiencies that will be realized in TY 2019. Some of the initiatives that were identified to improve CCC operational efficiency through lower labor costs include: simplifying Credit Payment Offerings and creating consistency across all service channels; combining email and Chat under one platform; implementing a Case Management System for Complaint Resolution; redirecting repeated credit calls to self-service; enhancing IVR and Web outage information and communication; optimizing credit and outage call handling, and digitizing work orders and intake processes for contract crews.

Furthermore, as discussed in the testimony of Witness Denita Willoughby (Exhibit SDG&E-20), the Supply Management group is focused on optimizing procurement strategies for

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Greenlining Institute, and the Center for Accessible Technology) was filed. The Settlement Agreement was approved on June 26, 2014 by CPUC D.14-06-036.

business units across the companies. FOF Supply Management group benefits for CSOO are ($289,000) and already accounted for in the $251,000 non-labor increase discussed above.

H. Customer Contact Center Support

Table JS-29 below summarizes SDG&E's requested TY 2019 expenses for Customer Contact Center Support.

TABLE JS-29
Forecast for CCC Support

CS - OFFICE OPERATIONS (In 2016 $)			
A. Customer Service Office Operations	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
8. Customer Contact Center Support	2,790	2,679	-111
Total	**2,790**	**2,679**	**-111**

1. Description of Costs and Underlying Activities

CCC Support cost center activities include resource planning and scheduling; technology support (including software licensing, maintenance and support service); training; quality assurance; policy and procedures support; planning and analysis functions; and clerical support.

The calculations for the estimated expenses for CCC support are included in workpapers (Ex. SDG&E-18-WP 1OO007.000).

2. Forecast Method

I chose to use a base year forecast method for TY 2019 for CCC Support because the last recorded year accurately reflects the expense level associated with current departmental activities. Furthermore, while labor has remained constant over the years, non-labor has fluctuated due to technological implementation for new and/or outdated systems. Therefore, the base year provides a reasonable starting point for future expenditures.

3. Cost Drivers

Table JS-30 summarizes the changes in the CCC Support estimated expenses for TY 2019.

TABLE 30
Changes in CCC Support TY 2019 Estimated Expenses

CCC Support	TY 2019 - 2016 Change (000s)			
	Labor	Non-Labor	Total	FTEs
Business Optimization – FOF	-146	35	-111	-2.5
Total TY 2019 Impact	**-146**	**35**	**-111**	**-2.5**

a. FOF - Business Optimization

The CCC Support forecasts reflects a ($111,000) overall reduction from BY 2016 due to the savings achieved by business optimization such as improvement in CCC support efficiency; combining email and Chat under one platform and implementing on-line training in the CCC for ESSs. The optimization efforts would collectively reduce the labor cost by $146,000 and corresponding staffing level by 2.5 FTE, while increasing the non-labor cost by $35,000.

I. Customer Operations Support and Projects

Table JS-31 below summarizes SDG&E's requested TY 2019 expenses for Customer Operations Support and Projects.

TABLE JS-31
Forecast for Customer Operations Support and Projects

CS - OFFICE OPERATIONS (In 2016 $)			
A. Customer Service Office Operations	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
9. Customer Operations Support & Projects	3,120	3,604	484
Total	**3,120**	**3,604**	**484**

1. Description of Costs and Underlying Activities

The Customer Operation Support and Projects workpaper consists of two groups: Customer Operations Support (COS) and Customer Service Project Management Office (CSPMO). The activities performed by each group is described below.

- Customer Operations Support (COS)

COS is responsible for the support and delivery of major Customer Service projects and initiatives; maintenance; and production support for existing technology and business integration of technology. COS provides support for many of the key systems within the Customer Service organization such as the CIS, My Account, Centralized Calculation Engine (CCE), C3 and Customer Relationship Management (CRM) to name a few. COS represents the Customer Service organization and is the liaison between the business and IT organization. Daily operational support responsibilities include the triaging and resolution of issues reported by the business organizations, business defects/enhancements prioritizations related to applications or reporting, requirements development for new tools and reports, and user acceptance testing. In addition to the daily operational support, the team also supports the Customer Services Project Management Office (CSPMO) capital projects as subject matter experts (SMEs) of the systems.

- Customer Services Project Management Office (CSPMO)

CSPMO manages a portfolio of capital and regulatory projects from all Customer Services business units, including, COS, Business Services, Customer Programs, Marketing Research & Analytics, Residential Services, Customer Service Field (CSF) and Smart Meter Operations. The CSPMO facilitates initial phase of project development, including business case development and project portfolio selection. By being involved from the onset of projects, CSPMO delivers successful implementations that maintain a focus on SDG&E customers and ensures that business goals and strategic alignment are achieved with each project. The objectives of the CSPMO are to: achieve successful project implementations; build project management maturity and adherence to established project management principles; and serve as the central authority on project priorities, reporting and stakeholder communications. The CSPMO has a focus on business responsibilities throughout the lifecycle of a project and partners with IT personnel on the project management of technology and software development. Responsibilities may include, but are not limited to, business case development; project planning, development and execution; business process re-engineering; requirements development, management and traceability; solution design and validation; resource, budget and schedule management; vendor and contract management, user acceptance testing planning and execution; change management; and post-implementation support.

The calculations for the estimated expenses for COS and CSPMO are included in workpapers (Ex. SDG&E-18-WP 1OO008.000).

2. Forecast Method

A base year forecast method was utilized for TY 2019 for COS and CSPMO because the last recorded year accurately reflects the expense level associated with current departmental activity. Labor increased in BY 2016 due to the transition of ongoing Dynamic Pricing support from capital to O&M as approved by our TY 2016 GRC D.16-06-054. Therefore, the base year provides a reasonable starting point for future expenditures.

3. Cost Drivers

Table JS-32 summarizes the changes in the COS and CSPMO estimated expenses for TY 2019.

TABLE JS-32
Changes in Customer Operations Support and Projects TY 2019 Estimated Expenses

Customer Operations Support and Projects	TY 2019 - 2016 Change (000s)			
	Labor	Non-Labor	Total	FTEs
Full Year Labor Impact	142		142	2.0
Employee Development		20	20	
Project Growth – Business Requirements	97	3	100	.8
Capital Project Impacts – GRC Phase 2 (Capital project # T19007)	89	3	92	1.0
Capital Project Impacts – CCE Phase 3 (Capital Project # T16047)	102	3	105	1.0
Software Licensing Fees		25	25	
Total TY 2019 Impact	**430**	**54**	**484**	**4.8**

a. Full Year Effect of Labor Vacancies

I am requesting $142,000 in labor above the BY 2016 to add back full-year salaries for employees. In BY 2016, there were employees who worked only a partial year because of personal leaves, and there were positions that were filled only mid-year. Without this adjustment, true labor costs would not be accurately reflected.

b. Employee Development

I am requesting $20,000 in non-labor above the BY 2016 to invest in employee development for COS and CSPMO workgroups. Today's rapidly changing business

environment requires that the employees be ready to respond to technological advancement by keeping abreast of industry-standards best practices. Since these developments are geared towards all team members, it introduces greater consistency in process adherence, enhances operational efficiency as well as productivity. Effective training also introduces new skills into each employee's tool-kit and increases their usability across the entire organization. Employees with diverse skills sets can perform a variety of tasks and can transition more easily into different roles. Moreover, this training can provide career pathways for employees, making retention within the organization greater, and as such may reduce recruitment costs.

c. Project Growth – Business Requirements

I am requesting $97,000 in labor and $3,000 in associated non-labor above the BY 2016 to support the project growth in the CSPMO area by hiring a Business Architect. The Business Architect aligns strategic business goals and priorities with decisions regarding projects, applications/systems, processes, and capabilities across the organization. The role has a strong focus on the business, identifying the gaps between current capabilities and the desired implementation roadmaps (Business & IT) by IT architecture models and business process improvement. With the demand of both capital and O&M changes to processes and systems, the Business Architect plays a key role in developing and managing the Business Technology Governance process to ensure synergies and alignment of processes, projects and systems to the optimum operating model and solution architecture.

d. Capital Project Impacts – GRC Phase 2 (Capital project # T19007)

I am requesting $89,000 in labor and $3,000 in associated non-labor above the BY 2016 for a Business System Analyst who will support the ongoing activities and technical expertise for enhancement requests and defect resolution associated with the GRC Phase 2 capital project. This resource will provide on-going production support for the GRC Phase 2 functionality being implemented across Customer Service applications. Not having this position will impair the team's ability to provide timely production support, which would impact billing customers, leading to an increase in delayed bills, and result in a negative customer experience.

e. Capital Project Impacts – CCE Phase 3 (Capital Project # T16047)

I am requesting $102,000 in labor and $3,000 in associated non-labor above the BY 2016 for a Senior Business System Analyst who will support the ongoing activities related to the CCE

Phase 3 capital project. A Senior Business System Analyst position is required in order to provide production support and technical expertise for enhancement requests and defect resolution for the CCE application. Not having this position will impair the team's ability to provide timely production support which would impact business functions requiring the availability of the system.

f. Software Subscription – Per User Fees

I am requesting $25,000 in non-labor above the BY 2016 for the CSPMO group's software subscription. The new software is a requirements management platform that is more closely integrated into the systems development process. It provides an online/cloud based platform to centrally manage requirements throughout the entire project lifecycle. It includes capabilities to help streamline the overall development such as: collaboration, approval workflow, communication, re-use, traceability and reporting. This software provides a platform for the Business Analysts to manage requirements in a central location and the fees are based on a per user subscription. Without this software, it will be difficult to manage the increasing number of projects and requirements associated with new technology and we would continue to use antiquated tools and methods that would not be as efficient.

IV. UNCOLLECTIBLE RATE

I am requesting that SDG&E's current uncollectible rate remain at 0.174%. This reflects the 10 -Year average (2007 – 2016) and is consistent with the uncollectible rate requested and authorized in the last two GRCs, TY 2012 and TY 2016. The volatility or cyclical nature of the uncollectible rate depends on macroeconomic, microeconomic and regional economic factors and the variability of seasonal energy bills (hotter summers mean higher electric bills for air conditioning, and colder winters mean higher natural gas bills for heating). However, the precise incremental impact to the uncollectible rate due to each of the independent variables is difficult to quantify and correlate. Nevertheless, a larger energy bill means that a greater proportion of customers will have difficulty paying, and therefore increase the likelihood of an uncollectible expense. The Uncollectible rate may be impacted as a result of recently enacted legislative policy, SB-598.[21]

[21] SB 598 (Hueso): Disconnection Prohibition will become law on January 1, 2018,and may have an impact on SDG&E. This bill would prohibit the utilities from disconnecting for lack of payment any CARE customers that also qualify for medical baseline treatment under specified conditions. SDG&E is

TABLE JS-33
SDG&E Uncollectible Data 2007-2016

Year	Recorded Uncollectible Expense (a)	Sales Revenue (b)	Uncollectible Rate (a) / (b)
2007	$ 4,855,651	$ 2,784,813,403	0.174%
2008	$ 6,675,500	$ 2,775,376,420	0.241%
2009	$ 5,278,315	$ 2,836,818,502	0.186%
2010	$ 4,828,063	$ 2,865,422,686	0.168%
2011	$ 6,162,914	$ 3,087,387,963	0.200%
2012	$ 5,027,626	$ 3,030,246,377	0.166%
2013	$ 4,911,906	$ 3,225,416,802	0.152%
2014	$ 5,309,773	$ 3,779,062,099	0.141%
2015	$ 6,455,318	$ 4,033,166,170	0.160%
2016	$ 6,427,130	$ 3,737,413,809	0.172%
10 year average	$ 55,932,197	$ 32,155,124,231	0.174%
5 year average	$ 28,131,754	$ 17,805,305,257	0.158%
3 year average	$ 18,192,222	$ 11,549,642,078	0.158%

Note: Adjusted for all Enron-related write offs and recoveries to remove anomalies for comparison purposes

The Table JS-33 above displays the historical uncollectible rate from 2007-2016, and a ten-year, five-year and three-year average.

According to the National Bureau of Economic Research (NBER),[22] the last economic expansion began in June 2009. The average business cycle lasts 68.5 months or five-six years;

monitoring SB 598 developments and may take appropriate steps in this proceeding such as requesting a memorandum account to track associated revenue requirement impacts to reflect any impacts from SB 598, such as increased costs as well as bad debt write-offs, as soon as they are known.

[22] *See* http://www.nber.org/cycles/cyclesmain.html.

therefore, as of 2017, the next recession is undoubtedly overdue. SDG&E's uncollectable rate began increasing in 2015, aligning with NBER's six-year business cycle model. SDG&E ended 2015 with a .160% uncollectable rate or 12.2% year over year (YOY) increase and ended 2016 with a .172% uncollectable rate or 6.9% YOY increase. SDG&E's 5-year average of .158% is too low; given that we are currently well beyond the average duration of an economic expansion, signaling that a recession could occur within the next few years.

V. CAPITAL

I am sponsoring the business rationale for each of the following IT capital projects. The estimated capital expense requests are included in the testimony and capital workpapers of Mr. Olmsted (Exs. SDG&E-24 and SDG&E-24-CWP). Table JS-34 summarizes the total capital forecasts for 2017, 2018, and TY 2019.

TABLE JS-34
Capital Expenditures Summary of Costs

INFO TECH/TELECOM CAPITAL			
Shown in Thousands of 2016 Dollars			
CS – Office Operations	**Estimated 2017**	**Estimated 2018**	**Estimated TY 2019**
A. Technical Obsolescence	3,340	2,480	1,505
B. Improving Customer Experience	1,494	6,092	10,827
C. Mandated	559	0	0
D. Business Optimization	9,504	7,202	4,000
Total	**14,897**	**15,774**	**16,332**

The following lists the detailed capital projects by category as summarized in Table JS-35 below:

TABLE JS-35
Capital Expenditures Summary by Category

GRID WP #	Capital Project #	Capital Project Name	2017 Total ($000)	2018 Total ($000)	TY 2019 Total ($000)
831C	T16052	EBPP Tech Refresh	0	2,000	1,025
831I	T15064	Smart Meter System Upgrade	3,340	480	480
		Sub-Total Technical Obsolescence	**3,340**	**2,480**	**1,505**
834S	T16043	Advanced Analytics Foundation	384	0	0
831P	T19047	Smart Meter Network Modernization	0	4,866	10,215
811F	T16039	Bill Redesign Phase 2	1,110	1,226	612
		Sub-Total Improving Customer Experience	**1,494**	**6,092**	**10,827**
831G	T16020	Net Energy Metering (NEM 2.0)	559	0	0
		Sub-Total Mandated	**559**	**0**	**0**
03849A	T19031	FOF - IVR Project	652	0	0
03849B	T19030	FOF - KANA Enhancements and Online Training	1,360	0	0
03849C	T19029	FOF - Propensity to Pay	1,531	0	0
811K	T14038	DASR System Upgrade	353	0	0
831D	T16047	Centralized Calculation Engine Phase 3(CCE PH3)	1,838	0	0
831F	T16025	IDS Billing Enhancement	361	0	0
831K	T19038	Off But Registering (OBR) Enhancement Project	0	559	0
831L	T19037	Remote Meter Configuration (RMC) Rebuild	0	505	0
831M	T19036	Enhanced Network Analytics	0	3,826	4,000
832A	T19001	Branch Office Kiosk Replacement	150	1,837	0
832B	T16034	Smart Meter Network Enhancements	2,534	0	0
16871A	T16028	Smart Meter Network Devices	725	475	0
		Sub-Total Business Optimization	**9,504**	**7,202**	**4,000**
		Total	**14,897**	**15,774**	**16,332**

A. Technical Obsolescence

Table JS-36 below shows a summary of the requested capital expenditures related to Technical Obsolescence.

TABLE JS-36
Technical Obsolescence Capital Summary

GRID WP #	Capital Project #	Capital Project Name	2017 Total ($000)	2018 Total ($000)	TY 2019 Total ($000)
831C	T16052	EBPP Tech Refresh	0	2,000	1,025
831I	T15064	Smart Meter System Upgrade	3,340	480	480
		Sub-Total Technical Obsolescence	**3,340**	**2,480**	**1,505**

1. Electronic Bill Presentment and Payment Technology (EBPP Tech) Refresh (Project # T16052)

The purpose of the EBPP Tech Refresh project is to re-engineer EBPP resulting in a single, consolidated My Account Portal encompassing EBPP functionality. Additionally, this project would also look to replace existing EBPP-related integrations that are the root cause of performance issues. These integrations are complicated, made up of long running batch jobs that are prone to failure and constitute a support burden. Rewriting, eliminating, and/or simplifying these jobs would reduce errors and the support required to maintain the application. Furthermore, the project will provide improved stability and dependability of EBPP as we continue to promote and drive increased adoption of our online services. Recurring Payment adoption rates and cash flow improvements will be realized due to an enhanced Recurring Payment process since automated payments and payment reminders could adjust automatically to the billing cycle resulting in fewer mis-scheduled payments and fewer calls to the Call Center. The forecast for the EBPP Tech Refresh project for 2017, 2018, and 2019 are $0, $2,000,000, and $1,025,000, respectively.

2. Smart Meter Systems Upgrade (Project # T15064)

The Smart Meter Systems Upgrade project will upgrade the CE and MDMS and associated database hardware in order to reduce the risk of catastrophic system failure and avoid significant costs associated with system recovery and lost revenue. Additionally, the project will select a vendor to redefine the overall Smart Meter testing methodology and develop test automation for end-to-end Smart Meter testing. This improved Smart Meter testing process will ensure that these systems are thoroughly tested during this project and will provide the process and tools required for ongoing software release testing, and Smart Meter configuration and firmware testing in the future. This project is currently in progress and expected to be completed

in 2019. The forecast for the Smart Meter Upgrade project for 2017, 2018, and 2019 are $3,340,000, $480,000, and $480,000, respectively.

B. Improving Customer Experience

Table JS-37 below shows a summary of the requested capital expenditures related to improving customer experience.

TABLE JS-37
Improving Customer Experience Capital Summary

GRID WP #	Capital Project #	Capital Project Name	2017 Total ($000)	2018 Total ($000)	TY 2019 Total ($000)
834S	T16043	Advanced Analytics Foundation	384	0	0
831P	T19047	Smart Meter Network Modernization	0	4,866	10,215
811F	T16039	Bill Redesign Phase 2	1,110	1,226	612
		Improving Customer Experience	**1,494**	**6,092**	**10,827**

1. Advanced Analytics Foundation (Project # T16043)

The Advanced Analytics Foundation project would build an analytical test bed with focus on cognitive and machine learning technology to better meet the growing needs and demands to create business efficiencies utilizing automation. This project is integral to providing a foundation on which CCC optimization, Smart Meter/City Analytics and Internet of Things projects will be implemented, using advanced analytics technology. These tools will provide the foundation for future projects to come forward based on their operational benefits and/or revenue generation opportunities. The forecast for the Advanced Analytics Foundation project for 2017, 2018, and 2019 are $384,000, $0, and $0, respectively.

2. FOF - IVR Project (Project # T19031)

The IVR project is required to support the Fueling our Future initiative's objective to increase self-service and reduce customer calls handled by CCC representatives. This project would add fumigation turn-off function to the IVR, streamline IVR flows, credits and outage functions, and will help reduce repeat calls. Enhancing the self-service in IVR will lead to greater operational efficiency, customer experience and satisfaction. Implementing this capital project is essential for achieving the O&M benefits I describe in the CCC Operations Section

III.G.3.g, above. This project is currently in progress and scheduled for deployment in Q4 2017 and Q1 2018. The forecast for the FOF-IVR project for 2017, 2018, and 2019 are $652,000, $0, and $0, respectively.

3. Bill Redesign Phase 2 (Project # T16039)

The Bill Redesign Phase 2 project will improve the customer experience by enhancing key aspects of the paper bill customers receive each month. The future bill will include color to make it easier to read and improved/additional charts and infographics to support increased customer engagement in support of Rate Reform and TOU rate changes. The forecast for the Bill Redesign Phase 2 project for 2017, 2018, and 2019 are $1,100,000, $1,226,000, and $612,000, respectively.

C. Mandated

Table JS-38 below shows a summary of the requested capital expenditures related to mandated projects.

TABLE JS-38
Mandated Capital Project Summary

GRID WP #	Capital Project #	Capital Project Name	2017 Total ($000)	2018 Total ($000)	TY 2019 Total ($000)
831G	T16020	Net Energy Metering (NEM 2.0)	559	0	0
		Sub-Total Mandated	**559**	**0**	**0**

1. Net Energy Metering Successor Tariff (NEM 2.0) (Project # T16020)

In BY 2016, SDG&E implemented the NEM 2.0 successor tariff (D.16-01-044) at the time it reached its maximum capacity of 617 MW of energy for NEM 1.0 customers. The successor tariff introduced a few changes to the rate structure for future NEM customers, which included additional charges and interconnection fees. The implementation for BY 2016 ensured that SDG&E could bill customers appropriately on the NEM 2.0 rate; however, certain enhancements and features had to be deferred to allow successful billing of the customers on the appropriate cutover date in June 2016. As the number of NEM 2.0 customers continues to grow, SDG&E will need to implement the enhancements and features that were part of the original design so that the billing system can handle the associated level of growth and complexity, and

to ensure billing accuracy and timeliness. The forecast for the NEM 2.0 project for 2017, 2018, and 2019 are $559,000, $0, and $0, respectively.

D. Business Optimization

Table JS-39 below shows a summary of the requested capital expenditures related to business optimization.

TABLE JS-39
Business Optimization Capital Summary

GRID WP #	Capital Project #	Capital Project Name	2017 Total ($000)	2018 Total ($000)	TY 2019 Total ($000)
03849A	T19031	FOF - IVR Project	652	0	0
03849B	T19030	FOF - KANA Enhancement and Online Training	1,360	0	0
03849C	T19029	FOF - Propensity to Pay	1,531	0	0
811K	T14038	DASR System Upgrade	353	0	0
831D	T16047	Centralized Calculation Engine Phase 3(CCE PH3)	1,838	0	0
831F	T16025	IDS Billing Enhancement	361	0	0
831K	T19038	Off But Registering (OBR) Enhancement Project	0	559	0
831L	T19037	Remote Meter Configuration (RMC) Rebuild	0	505	0
831M	T19036	Enhanced Network Analytics	0	3,826	4,000
832A	T19001	Branch Office Kiosk Replacement	150	1,837	0
832B	T16034	Smart Meter Network Enhancement	2,534	0	0
16871A	T16028	Smart Meter Network Devices	725	475	0
		Business Optimization	**9,504**	**7,202**	**4,000**

1. FOF - KANA Enhancements and Online Training (Project # T19030)

The KANA enhancement and Online Training Project would provide an integrated view of the customer channels and contacts, provide better service, and a holistic view of the customer contacts. At present, the CCC uses separate vendors for live chat and e-mail response, creating a non-integrated view of the three primary customer contact channels (ESS-assisted, live chat, and e-mail). Furthermore, the integration will help in optimization of resources due to the single

system for transacting with customers through dynamic routing and prioritization across calls, e-mail, and chat. The forecast for the FOF-KANA Enhancement and online training project for 2017, 2018 and 2019 are $1,360,000, $0, and $0, respectively.

2. FOF - Propensity to Pay (Project # T19029)

The Propensity to Pay project offers a comprehensive solution that provides better risk assessment for SDG&E customers by improving the current credit risk scoring model. Based on various credit related data points, it assesses the customer's likelihood to make payments on their SDG&E bill, and categorizes them in low, medium and high risk categories. With enhanced analytics, SDG&E can better determine how to approach customers *i.e.*, create risk based treatments for Low/Med/High credit assessments, tie risk assessment/scoring into a deposit request, trigger additional deposit requests or continue to hold existing deposits based on credit risk, and ensure consistent treatments are presented with Pay Agreements across all three channels (IVR, SEAD, My Account).

As a result of the customized approach presented above, this project is expected to accelerate cash flow, reduce uncollectable expense, eliminate unnecessary mail and field collection activities, and reduce calls to the CCC related to payment arrangements. The forecast for the FOF-Propensity to Pay project for 2017, 2018 and 2019 are $1,531,000, $0, and $0, respectively.

3. DASR System Upgrade (Project # T14038)

The Direct Access Service Request (DASR) System is used to process requests for enrollment, termination, and account management associated with customers receiving electric services from an Energy Service Provider (ESP) under the Direct Access Program. The current system was implemented in the late 1990s, and has reached the end of its useful life. Additionally, the current system cannot be enhanced for Community Choice Aggregation (CCA). The DASR system upgrade will meet both electric and gas needs, migrate all user interfaces that are currently developed in PowerBuilder to a new maintainable platform; centralizing business logic, which are currently spread across multiple systems into the new DASR system; developing application integrations, based on new system design, which consolidates DASR data and business logic into one system; developing EDI integrations to support all electric and gas data exchanges with Energy Service Providers; and developing components to generate and track letters and reports for customers and Load Serving Entity's

(LSE). This project is currently in progress with an expected implementation in Q4 2017. The forecast for the DASR System upgrade project for 2017, 2018, and 2019 are $353,000, $0, and $0, respectively.

4. Centralized Calculation Engine PH3 (CCE PH3) (Project # T16047)

The CCE Phase 3 project would establish CCE as the single system that provides bill impacts for current and future proposed electric rates. Additionally, CCE would be utilized to provide Rate Comparison reports, which shows bill impacts for the upcoming Residential pricing rollout as well as support Batch Rate comparison due to the regulatory mandate that requires SDG&E to send all residential customers their Rate comparison reports twice a year. CCE is an internal engine and tool, used for configuration and maintenance of Company's existing rates and associated data for rate modelling, comparison or analysis. This tool may also be used for customer bill impact calculations, analysis and configuration that may occur prior to Commission filings. This project is currently in progress with multiple releases. The final release and project completion is expected in December 2017. The forecast for the CCE Phase 3 project for 2017, 2018, and 2019 are $1,838,000, $0, and $0, respectively.

5. IDS Billing Enhancement (Project # T16025)

The current Interval Data System (IDS) Billing system bills complex accounts with non-standard meter relationships *i.e.*, these accounts have more than just one gas and one electric meter. At present, the IDS Billing system cannot shadow bill accounts, a feature that would allow customers to understand how they would perform on their Otherwise Applicable Rate (OAR) when they are defaulted to a new rate. This project allows SDG&E to enhance its billing system so that shadow billing can be performed and that customers can understand how they would perform on their OAR when they are defaulted to a new rate. Providing customers with this analysis helps them to determine whether they should stay on their defaulted rate or transition to a different rate that may be better suited for them. The forecast for IDS Billing Enhancement project for 2017, 2018, and 2019 are $361,000, $0, and $0, respectively.

6. Off But Registering (OBR) Enhancement Project (Project # T19038)

The purpose of the OBR Enhancement project is to automate the process of identifying and investigating situations where energy consumption is recorded on a company meter but system records indicate that the premise is inactive or OBR. The existing OBR process involves many manual tasks such as reviewing reports, making phone calls, and initiating field visits to

determine the cause for consumption and who is responsible. The project will allow for automated monitoring and identification of these scenarios, will enable automated notifications to be mailed and/or delivered to premises, and will apply decision logic to leverage remote disconnect when possible. The forecast for the OBR project for 2017, 2018, and 2019 are $0, $559,000, and $0, respectively.

7. Remote Meter Configuration (RMC) Rebuild (Project # T19037)

The current RMC application cannot be scaled or expanded to keep up with demand. RMC is used to reconfigure meters in the field to meet energy program requirements such as TOU, NEM, among others. As customers migrate to more complex programs, meter attributes must be changed or reconfigured to support such programs. A rebuild of RMC would eliminate field orders to replace meters to meet customer program needs, eliminate inefficient, manual workaround practices of meter reconfiguration, relieve stress on the existing Customer Information Systems application and position SDG&E to better meet customer expectation. The forecast for the RMC Rebuild project for 2017, 2018, and 2019 are $0, $505,000, and $0, respectively.

8. RAMP - Enhanced Network Analytics (Project # T19036)

The Enhanced Network Analytics Project would build a Smart Meter Analytics platform that enables efficient and robust data processing, and enhanced reporting and analytics capabilities required to maintain a reliable Advanced Metering Infrastructure (AMI) network. The platform will integrate customer information, meter data and attributes, distribution assets, weather data, and data from various sources that is required to proactively report, analyze, and prioritize data quality issues and meter exceptions. This application would also establish the foundation required to quickly scale and store new data, develop new analytical dashboards, and provide necessary reporting. As described in the RAMP Report Chapter 13, this is one of several solutions supporting operational needs relative to Records Management. The forecast for the Enhanced Network Analytics project for 2017, 2018, and 2019 are $0, $3,826,000, and $4,000,000 respectively.

9. Branch Office Kiosk Replacement (Project # T19001)

The Branch Office Kiosk Replacement project will purchase 15 new bill payment kiosks for the Branch Offices and replace 10 existing outdated kiosks. This project will move in-person payments to self-service and improve the customer payment experience by reducing wait times

and offering additional payment options. The new equipment will utilize enhanced technology, providing more convenient and secure payment options for customers such as credit/debit card payments, check payments through ACH transfers, and account number lookup options. Additionally, the project would decrease face-to-face transactions over the counter, reduce labor intensive payment processing and reconciliation, and eliminate time consuming efforts to troubleshoot and track on-going issues with existing antiquated kiosks. The benefits described above seek to decrease the cost per transaction and achieve long-term cost savings within the organization as also described above in the Branch Office and APL Section III.F.3.d. This project is currently in progress. The phase 1 pilot of replacements should be completed Q4 2017. The forecast for the Branch Office Kiosk Replacement project for 2017, 2018, and 2019 are $150,000, $1,837,000, and $0, respectively.

10. Smart Meter Network Enhancement (Project # T16034)

The Smart Meter Network Enhancement project seeks to develop and implement an improved under-the-glass communication technology to increase communication channels and communication modes allowing use of the robust SDG&E Smart Meter Network infrastructure to support gas safety situational awareness in alignment with the (SDG&E) Pipeline Safety Enhancement program. The project will prove the technology for a network platform capable of being a multi-tenant network offering opportunity to expand deployment of advanced communication devices throughout the SDG&E service territory, establishes a technological foundation for connecting hard to reach meters, and is a precursor for the Smart Meter Network Modernization Project # T19047. This project is currently in progress and expected to complete in December 2017. The forecast for the Smart Meter Network Enhancement project for 2017, 2018, and 2019 are $2,534,000, $0, and $0, respectively.

11. Smart Meter Network Devices (Project # T16028)

This project proposes to research, test and deploy new network hardware and advanced communication devices to effectively resolve network connectivity issues for approximately 25% of the stranded meters currently in the field. Mitigation and infrastructure expansion are a fundamental part of Smart Meter Operations. Approximately 38% of new meter installations require additional work to resolve communication issues. This project will provide the funding to secure Customer Agreement Forms to install devices on private property, and coordinate and manage the acquisition and installation of network devices that seek to resolve meter

communication issues. This project is currently in progress. The forecast for the Smart Meter Network Devices project for 2017, 2018, and 2019 are $725,000, $475,000, and $0, respectively.

12. Smart Meter Network Modernization (Project # T19047)

The SDG&E Smart Meter Network consists of approximately 2,800 operational Itron OpenWay Radio Frequency Local Area Network (RFLAN) 3G Cell Relays. The Cell Relays provide routing functions for over 2.2 million existing Company RFLAN electric and gas meters. Many of the existing Cell Relays are near the end of their useful life. According to Verizon and AT&T, in Q4 of TY 2019, Verizon will discontinue support of 3G communication devices and in Q1 of 2018, AT&T will publicly announce their 3G sunset plan. If the Cell Relays are not replaced with 4G or better communication technology, the network will stop communicating.

This project will systematically replace approximately 2,300, 3G RF Cell Relays with enhanced 4G RF/IPv6 Cell Relays complimenting the Smart Meter Network Enhancement Project # T16034, which addresses hard-to-reach, poor performing electric meters and gas modules. Following phases will strategically replace electric meters and gas modules to strengthen communications and leverage new functionality. This new infrastructure would permit the Company to add new capabilities not specifically related to metering, offering broadened opportunities for greater visibility and control of our electric and gas distribution systems.

In preparation for full deployment of an Internet Protocol (IPv6) enabled Smart Meter network in a live Production environment, this project proposes to implement a small deployment of approximately 5000 gas and electric meters intended to measure performance conditions in the production network, and the operational impacts to daily data collection. Additionally, the project proposes to apply edge computing applications available in the IPv6 meters to determine potential benefits supporting power quality and Smart Grid analytics. The project team will measure efficiencies and document best practices and procedures to minimize impact on business operations and data collection activities. The meters will be clustered along specific circuits providing information necessary to support analytic analysis. The project will leverage and demonstrate edge computing capabilities of the Itron Riva meters and provide analyzed results to engineering teams for assessment. The forecast for the Smart Meter Network Modernization project for 2017, 2018, and 2019 are $0, $4,866,000, and $10,215,000 respectively.

VI. CONCLUSION

My SDG&E Customer Services Office Operations O&M and Capital project justifications were carefully developed and reviewed, and represent a projection of the level of funding necessary to support SDG&E's organizational focus for the TY 2019 GRC cycle. The focus being on partnering with our customers as a trusted energy advisor by ensuring customers have choice, convenience and control of how they interact with us and manage their energy use, while at the same time maintaining safe, efficient, effective and reliable customer service.

This concludes my prepared direct testimony.

VII. WITNESS QUALIFICATIONS

My name is Jerry Stewart. I am employed by San Diego Gas & Electric Company (SDG&E) as the Smart Meter Operations Manager. My business address is 9305 Lightwave Avenue, San Diego, California, 92123. My current responsibilities include overseeing SDG&E's Smart Meter applications, Smart Meter Daily Operations Team and the Network Operations and Engineering Team. I assumed my current position in 2011. I have been employed by SDG&E since 2003, and have held positions of increasing responsibility in Project Management, Electric Metering Operations, and Smart Meter Operations. I received a Bachelor of Science degree in Business Management, and a Master of Business Administration with an emphasis in Energy Management from the University of Phoenix. I have not previously testified before the Commission.

APPENDIX A
GLOSSARY OF TERMS

ADA: Americans with Disabilities Act

AHT: Average Handle Time

AL: Advice Letter

AMI: Advanced Metering Infrastructure

AMO: Advanced Metering Operations

APL: Authorized Payment Location

BBS: Behavior Based Safety

BY: Base Year

C&I: Commercial & Industrial

CARE: California Alternate Rates for Energy

CCA: Community Choice Aggregation

CCC: Customer Contact Center

CCE: Centralized Calculation Engine

CE: Collection Engine

CIS: Customer Information System

COS: Customer Information Support

CPUC: California Public Utilities Commission

CRM: Customer Relationship Management

CSF: Customer Service Field

CSOO: Customer Service Office Operations

CSPMO: Customer Services Program Management Office

D: Decision

DASMMD: Direct Access Standards for Metering and Meter Data

DASR: Direct Access Service Request

DSL: Digital Subscriber Line

EBPP: Electronic Bill Presentment and Payment

EDI: Electronic Data Interchange

EME: Electric Metering Engineering

EMO: Electric Metering Operations

ESA: Energy Savings Assistance

ESP: Energy Service Provider

ESS: Energy Services Specialist

FOF: Fueling Our Future

FTE: Full-Time Equivalent

GRC: General Rate Case

IBEW: International Brotherhood of Electrical Workers

IDR: Interval Data Recorders

IDS: Interval Data System

IT: Information Technology

IOU: Investor Owned Utilities

IVR: Interactive Voice Response

LOS: Level of Service

LSE: Load Serving Entity

MDMS: Meter Data Management System

MRP: Meter Revenue Protection

NBER: National Bureau of Economic Research

NEM: Net Energy Metering

NEM-AGG: Net Energy Metering Aggregate

NEM-V: Net Energy Metering Virtual

OAR: Otherwise Applicable Rate

OBR: Off But Registering

O&M: Operations and Maintenance

ORS: Operation Reporting System

PEP: Payment Entry Processing

QA: Quality Assurance

RAMP: Risk Assessment Mitigation Phase

RDMA: Residential Disconnect Memorandum Account

RMC: Remote Meter Configuration

RRMA: Rate Reform Memoranda Account

SAT: Safety Advisory Team

SDG&E: San Diego Gas & Electric Company

SEAD: Smart Energy Advisor Desktop

SMB: Small and Medium Business

SMDO: Smart Meter Data Operations

SME: Subject Matter Experts

SMOC-EM: Smart Meter Operations Center - Exception Management

SMTS: Smart Meter Technical Support

SoCalGas: Southern California Gas Company

SPP: Smart Pricing Program

SPT: Single Phase Meter Tech

TOU: Time of Use

TY: Test Year

USPS: United States Postal Service

VREP: Voluntary Retirement Enhancement Program

YOY: Year Over Year