Attachment I



# Overall Forecast and Key Drivers

2014GRCRevenueRequirement (Millions)	
2014 GRCApplication Forecast	\$8,111
2014 GRCAuthorized and Pending	6,829
ProposedIncrease	\$1,282

### Key drivers of Increase

- Investment toward achieving industry "best practices" for gas distribution, consistent with Senate Bill 705
- Continued investment in electric distribution infrastructure to improve the safety and reliability of the system and address identified risks
- Cost to comply with governmental regulations to address nuclear operations, hydroelectric relicensing conditions and potential risks to public safety
- Need for new customer connections and capacity-driven additions
- Improvements to customer service and education
- Recovery of costs for depreciation associated with PG&E'splant investments



## Additional Case Highlights

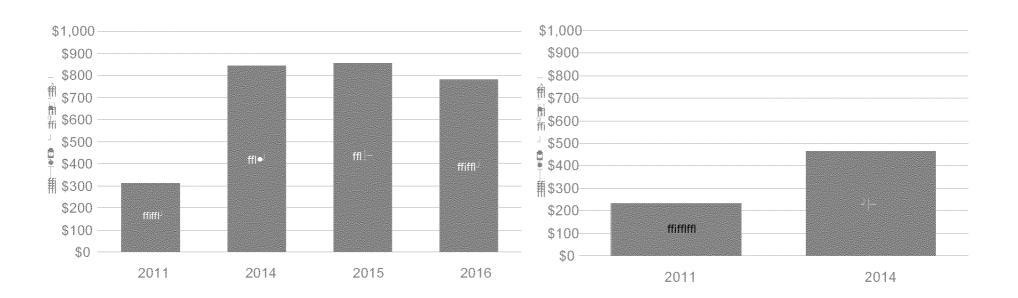
- NewTwo-WayBalancing Accounts
  - Gas Leak Survey and Repair (\$147MRRQ)
  - Major Emergencies (\$56M RRQ)
  - FERCRelicensing for Hydro Facilities (\$20MRRQ)
  - Nuclear Regulatory CommissionMandatedMeasures on Nuclear Safety (\$19M RRQ)
- SmartMeter Program : Deployment is forecasted to be completed in 2013; SmartMeter benefits are included in 2014 forecast
- Short-Term Incentive Program(STIP): Ratepayer recovery sought only for non-officer employees; officer STIP will be covered by shareholders
- Depreciation: Updated study; \$495Mincrease in depreciation expense due to change in depreciation rates





# Gas Operations Summaryof Forecast Capital Expenditures and Expenses

2014-2016 GRCCapital





# Gas Operations Key Cost Changesfrom 2011 Expenses

## 2011 Recorded - \$233M; 2014 Forecast - \$465M; Increase = \$232M

#### Leak Survey and Repair (\$78.9M)

- Transition from a 5-year to a 3-year leak survey
- Perform annual leak survey on highest risk pipe
- Deploy new technology (Picarro Survey to quickly identify Mobile technology for field employees and repair more leaks
- Repair above-ground Grade 3 leaks in 15 months rather tha Mapping and Records (\$15.2M) resurveying within 5 years

#### Gas Ops Technology (\$18.7M)

- Pathfinder Project (Gas Distribution Asset Management)
- Integrity Managemen Program enhancements
- Improved centralized accessibility of records

#### Gas Odor Response/CustomerService (\$36.8M)

- Respondto 75% of calls within 30 minutes, 99% within 60 Training and R&D(\$15.2M) minutes
- · Treat all gas odor calls as "immediate response"

Development of technical training curriculum and programs

#### Preventative Maintenance (\$24.5M)

Distribution Control Center (\$13M)

- Increased Locate and Mark services due to economic growth. Staffing for control center and equipment maintenance
- Proactive projects: dedicated painting crew, low pressure vent elevation for vaults

#### ManagemenProgram (\$22.6M) Distribution Integrity

- · Cross Bored Sewer Program
- Program Management



## Gas Operations Key Cost Changesfrom 2011 Capital Expenditures

## 2011 Recorded - \$308M; 2014 Forecast - \$842M; Increase = \$534M

Pipeline Replacement, Capacity, Reliability and other Customer Connections and Requested Work (\$45.1M) Capital (\$310.9M) Newcustomer growth projections: backbone construction

- Gas Pipeline Replacement Program (GPRP)(\$204.2M)
  - o Transition from replacing 30 miles to 180 miles of distributioralterations main and associated services
    - 60 miles of pre-1940 steel pipe per year
    - · 100 miles of Aldyl-A plastic pipe per year
    - 20 miles of post-1940 steel pipe per year
- Low pressure to high pressure main replaceme640.8M)
- Installation of additional emergencyv#\$2#38M)
- Replacement of High Pressure Regulato(\$31.5M)

Distribution

regulators with an IRV regulator of 60 RemoteTerminal Units and 128 pressure Field installation recorders and the custom software to enable it

Control Center Electronic Instrumentation (\$62.2M)

Gas Ops Technology (\$40.7M)

 Pathfinder Project (Gas Distribution) Asset Management) (\$15.7M)

(main), customer connections (services), regulators and facility

- Mobile technology for field employ€8≤2M)
- Back up radio system(\$8.0M)

Regulator Replacements (\$14.1M) · Labor costs of replacing non-internal relief valve (IRV)

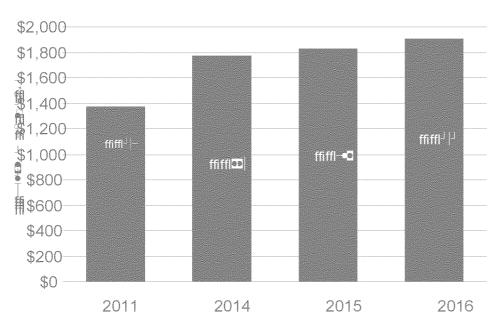
#### Gas Buildings (\$61.0M)

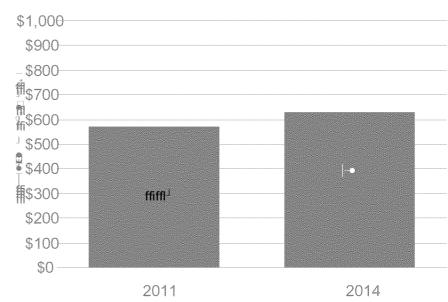
- Gas Training Cente(\$40.9M)
- Antioch Service Centéß7.7M)
- San Carlos Service Center\$4,5M)
- Construction of Gas Control Center "Hot" back@M)



# Electric Operations Summaryof Forecast: Capital Expenditures and Expenses

2014-2016 GRCCapital







# Electric Operations Key Cost Changesfrom 2011 Expenses

## 2011 Recorded - \$570M; 2014 Forecast - \$631M; Increase = \$61M

Safety, Maintenance and Compliance (\$56.3M)

Customer Connection. DemandGrowth and Franchise

- Vegetation Management: 1) Expansion of fire risk program 2 (\$6.0M) Expenditures for biological oversight as a result of increasing wbusiness: Increasing number of new customer focus on vegetation managementvork connections and Plug-In Electric Vehicles service requests
- Electric Distribution Maintenance: 1) ComprehensiveinfrenergencyResponse(\$-39.0M) and splice inventory program for the overhead system; 2) UG Barcoding project; 3) Underground switch replacement program (not the same as switch replacement program in Ch16)
  - · Routine Emergency: Forecast uses 3-year average with adjustment associated with implementing MobileConnect technology
- Pole Test & Treat: Forecast reflects results of 2010 review. Major Emergency: Forecast uses 5-year average adjusted for completing current 10-year cycle on schedule; and working ar EMA-related cost recovery increased number of poles as a result of working fewer poles Reduction because 2011 recorded for Major Emergencies is in 2009-2011 higher than forecast (largest expenditure in 2007 to 2011)
- · Substation Maintenance: Increase for substation support · Two-WayBalancing Account Proposal (for major and for corrective maintenance to complete higher emergencies) same as 2011 GRC activities priority maintenance work

Operations, Automation and Support (\$48.3M)

Work Efficiency \$-10.7M)

- Electric Mapping: 1) Reviewing maps for GIS; 2) Field Asset Jectric Operations Improvement plan calls for absorbing Inventory: 3) Convert paper-based records to electronic format calation from 2012 to 2015
- · Electric Ops Technology: 17 projects in the following 1) System Operations (6); 2) Asset and Ch. 8) technology portfolios: Records Management(3); 3) Work Design and Management (5): 4) Workforce Mobilization and Scheduling (3)
  - Escalation is included at a MW@evel (two exceptions, Ch. 2
  - A corresponding escalation credit, for the entire exhibit, is included in MWAB (expense)



# Electric Operations Key Cost Changesfrom 2011 Capital Expenditures

### 2011 Recorded - \$1,370M; 2014 Forecast - \$1,770M; Increase = \$400M

Customer Connection. DemandGrowth and Franchise Obligations (\$178.8M)

- Newbusiness: Forecast anticipates improving economic conditions based on data from Moody's Investor Service (Moody's)/Economy.comand HIS Global Insight
- · WRO: Forecast indexed to new business work and CalTrans spending plus additions for specific projects (e.g., Transbagemergency Response (\$-28.7M) Terminal, Central Subway, High-Speed Rail)
- Rule 20A: Continue to reduce accumulated work credits

Operations, Automation and Support (\$125.5M)

- PG&E'sdistribution of substation SCADA automation at nearly all substations by 2017
- Distribution Control Center Consolidation: 1) Original to construct 4 new facilities: 2) Nowplanning to construct new facility and remodeling two additional facilities significantly less cost

Asset Management Reliability (\$114.9M)

- Underground Assets: 1) Network Cable Replacement: 2) TGRAM/TGR&witch Replacement
- 1) Overhead conductor replacement to reduce instances of wire down; 2) Fault Locating, Isolating and Service included in MWO5 (capital). Restoration Systems; 3) Used Value of Service (VOS) to estimate benefit-to-cost ratios

Safety, Maintenance and Compliance (\$53.2M)

- · Comprehensiveinfrared and splice inventory program for the overhead system
- Underground switch replacement program
- SF series street lights

- · Routine Emergency: Forecast uses 2009 to 2011 average with adjustment associated with implementing MobileConnect technology
- · Major Emergency: Forecast uses 2007 to 2011 average

automation strategy calls for the installation Reduction because 2011 recorded for Major Emergency is the highest value in 2007 to 2011 time period

> · Two-WayBalancing Account Proposal for major emergencies plan wasame as 2011 GRC)

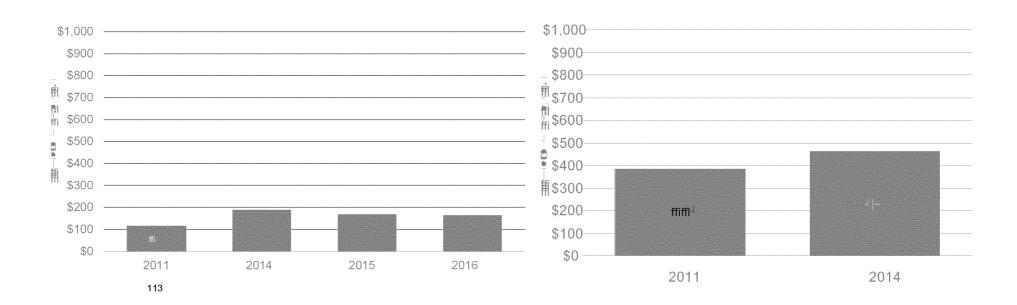
Work Efficiency (\$-43.7M)

- Electric Operations Improvement Plan calls for absorbing escalation from 2012 to 2015
- · Escalation is included at a MW@evel (exceptions Ch. 2 and Ch. 8)
- · A corresponding escalation credit, for the entire exhibit, is



## Customer Care Summaryof Forecast Capital Expenditures and Expenses

2014-2016 GRCCapital



11

# **Customer Care** Key Cost Changesfrom 2011 Expenses

## 2011 Recorded 1 - \$384M; 2014 Forecast - \$462M; Increase = \$78M

Account Services Staffing Increase (\$24.1M)

Validation and Processing of Interval Data (\$18.9M)

- · Improve base account services work (i.e. administer rates, Increase Billing Operations staff to handle increased volume communication)
- · Increase customer service provided to small and medium business customers
- Increase of approximately 146 full-time employees

#### Contact Center Enhancements(\$22.9M)

- Improve access to a representative, e.g., reduce average speed of answer (68 customer service representatives)
- Customer advocacy expansion (19 customer service employees)
- Expand and improve customer service representative training
- · Manageincrease in call durations (129 customer service representatives)

#### Rate Education and Outreach (\$23.4M)

- Integrate rate and program education and outreach consolidate rate education covering multiple rate programs . rather than requesting separate funding for each program
- Provide outreach and communications to customers regarding major electric and gas safety and reliability

rules, contracts, address billing, collection issues, outage of interval data for interval billing and web presentment: 137 employees to validate interval data to ensure accuracy for billing and customer web presentment

#### Information Technology Programs (\$4.7M)

- Customer interaction and relationship management
- Customer self-service and energy management improvements
- Interval data processing and exceptions management
- Improve billing capabilities for new rates and services
- · Meter management

#### SmartMeter TM Benefits (\$28M)

 SmartMeter<sup>TM</sup>-related savings included in forecast (2011 – 2014).

#### Other (\$12M)

- Reinstitution of the R-test Program at full scale
- SmartMeter<sup>TM</sup> maintenance work
- Electric SmartMeter testing at GEMS
- · Improve service and reduce wait times at local offices

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# **Customer Care** Key Cost Changesfrom 2011 Capital Expenditures

## 2011 Recorded - \$114M; 2014 Forecast - \$190M; Increase = \$76M

Information Technology Projects (\$25.6M)

- Customer interaction and relationship management
- · Customer self-service and energy managemenimprovements · Relocation of Billing and Credit Center
- Interval data processing and exceptions management
- Improve billing capabilities for new rates and services
- Meter management

Ongoing Metering Requirements and Miscellaneous Capital (\$26.9M)

- · Ongoing gas and electric meter costs
- · Computers, tools, equipment, miscellaneous capital infrastructure

Corporate Real Estate Costs (\$20.1M)

- Build out of Fresno and Sacramento Contact Centers

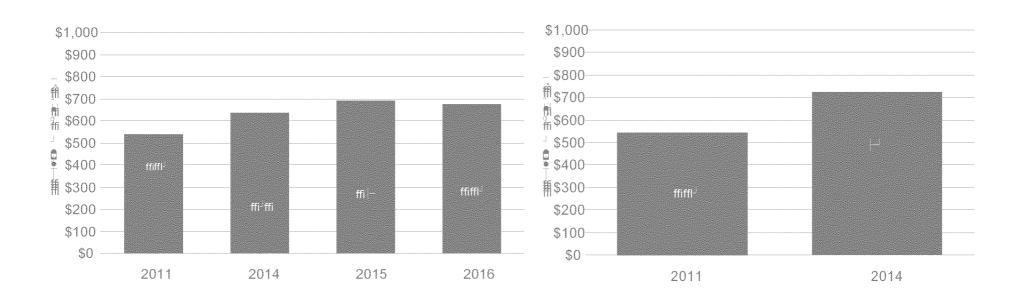
Local Office Remodels(\$4M)

- Improved signage
- Improved customer access
- Installation of ergo equipment for employees



# Energy Supply Summaryof Forecast Capital Expenditures and Expenses

## 2014-2016 GRCCapital





# Energy Supply Key Cost Changesfrom 2011 Expenses

### 2011 Recorded - \$543M; 2014 Forecast - \$723M; Increase = \$180M

Hydro Operations (\$58.1M)

- Enterprise Risk Managemenefforts and associated Facility Safety, Water Conveyance, and Penstock Programs
- FERQLicense Conditions as a result of licenses received and expected to be received
- Maintenance to continue the safe and reliable operations of powerhouses and water storage and conveyance systems

Nuclear Operations (\$101.3M)

- · Dual Refueling Outage
- Eddy current testing of Unit 2 Steam Generators
- O&MProjects (e.g., Cyber Security, EmergencyPlanning Rulemaking, Procedure Upgrade Project, and Water Storage Tank Concrete Repair)
- · Fukushimarelated regulatory requirements

Fossil and Other Generation Operations (\$8.8M)

- Piping integrity program; implementation of a machinery assessment program
- Humboldt Bay Generating Station major engine preventative maintenance work

Energy Procurement Administration (\$11.7M)

 NewCompliance Requirements (e.g., RenewablePortfolio Standard, GHG,QF/CombinedHeat and Power Settlement, Dodd-Frank Act of 2010)



# Energy Supply Key Cost Changesfrom 2011 Capital Expenditures

## 2011 Recorded - \$539M; 2014 Forecast - \$636M; Increase = \$97M

Hydro Operations (\$100.5M)

- WaterwayProjects to enhance public and employee safety
- Reliability Projects and Programs (e.g., Helms rotor and replacements, generator rewinds, turbine and governor overhauls/replacements, large valve refurbishments)
- FERGicense and license conditions work

Nuclear Operations (\$15.1M)

 Regulatory Required Work (e.g., Fukushimareview, Cyber Security, EmergencyPlan modifications, and a new National Fire Protection standard)

Fossil and Other Generation Operations (-\$26.2M)

mployeesafety • Completion of Large Construction Projects (Gateway

Helms rotor and stateenerating Station, Humboldt Bay Generating Station, and and governor

fuel cells)

Energy Procurement Administration (\$8.1M)

· CAISOMarket and Performance Initiatives



# Post-Test Year Ratemaking Proposal

2014 GRORevenueRequirement Forecast

\$8,111 million

2015 Attrition Increase

\$ 492 million

2015 GRORevenueRequirement Forecast

\$8,603 million

2016 Attrition Increase

\$ 504 million

2016 GRORevenueRequirement Forecast

\$9,107 million

#### Mechanism

Post-test year revenue requirement increases are necessary to fund:

- · Capital-related costs due to growth in rate base and depreciation expenses, irrespective of inflation
- Operating expense cost escalation for labor, medical, and materials and supplies
- Additional gas leak survey repair activity (subject to balancing account treatment; any unspent funds would be returned to customers)

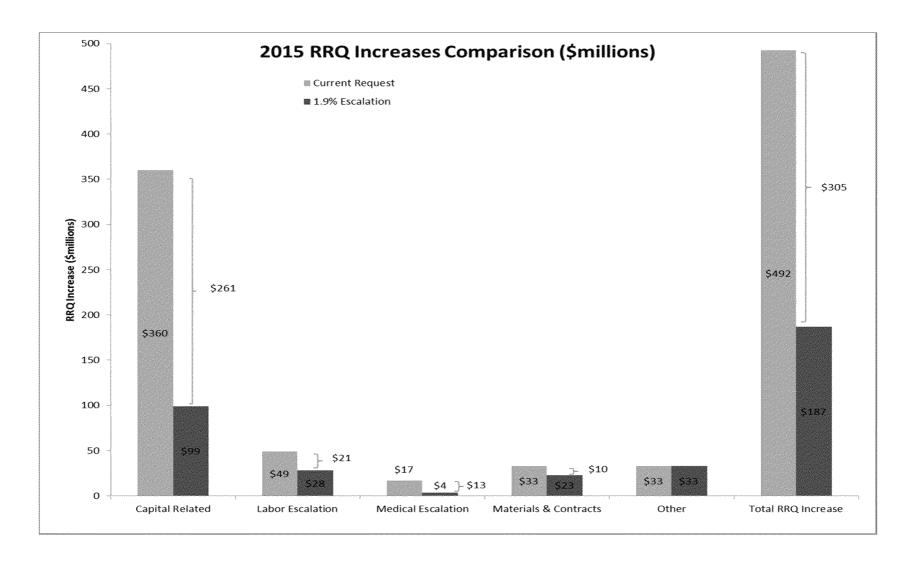
PG&Eproposes that revenue requirements for the attrition years be estimated using GRC-adoptecexpenses and capital additions for 2014; post-test year escalation rates would be set upon final Commissiondecision in the 2014 GRC proceeding.

Other Adjustments – Revenuerequirement changes associated with approved "Z factor" events, defined as significant events that are beyond the Company's ability to control and cause large changes in its cost structure. Z factor adjustments are subject to a one-time \$10 million deductible per event.



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## 2015 RevenueRequirement Increase Comparison



Attachment II



# Example (Capital)

		2014 2019	5 2016	
Beginning recorded balance (\$)		1000	1,120	1,240
Additions (\$)	January	10	10	10
	February	10	10	10
	March	10	10	10
	April	10	10	10
	May	10	10	10
	June	10	10	10
	July	10	10	10
	August	10	10	10
	September	10	10	10
	October	10	10	10
	November	10	10	10
	December	10	10	10
End of year recorded plant base (beginning + total additions madein the year)		1,120	1,240	1,360
Recorded rate base (weighted average)		1,060	1,180	1,300
RevenueRequirement Factor		17%	17%	17%
RRQ(\$)		180.2	200.6	221
CPI			3%	3%
CPI escalation RRQ(\$)		180.2	185.6	191.2



## Post Test Year Ratemaking (attrition)

Proposal

- Minimal link between CPI/general measure of inflation and capital revenue requirement changes
- Capital revenue requirement changes are determined almost entirely by the relationship between capital additions and depreciation
- Whencapital additions exceed depreciation, rate base and the related capital revenue requirement components increase is happens irrespective of inflation