

Application: 16-06-
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Exhibit No.: (PG&E-3)
Date: June 30, 2016
Witness(es): Various

PACIFIC GAS AND ELECTRIC COMPANY

2017 GENERAL RATE CASE PHASE II

PREPARED TESTIMONY

EXHIBIT (PG&E-3)

STATEMENTS OF QUALIFICATIONS



PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF EMILY BARTMAN

Q 1 Please state your name and business address.

A 1 My name is Emily Bartman, and my business address is Pacific Gas and Electric Company, 245 Market Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am a Principal Product Manager in the Pricing Products Department. My responsibilities include leading and interpreting customer research to understand preferences for rate plan options and ensure the customer voice is considered in the development and evaluation of electric rates. In addition, I am responsible for ensuring that customers who are most impacted by rate changes are identified and receive appropriate customer outreach.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Arts degree in Mathematical Economics from Pomona College in 1986, and a Master's degree in Business Administration from the University of California at Berkeley in 1992. I have worked at PG&E since 2011, first as a Senior Product Manager for residential pricing products before I was promoted to my current position in July 2012. Prior to that, I worked as an independent consultant for nine years including four years at Southern California Edison Company (SCE), analyzing and synthesizing existing customer research to help drive strategic planning efforts, leading the development of a product portfolio management structure and developing the business case for a new credit/debit card payment option. Between 1994-1999, I worked for Edison International, first building a customer-focused market analysis and strategy organization at SCE, and later helping launch the unregulated affiliate Edison Enterprises from the corporate center, and then building a direct marketing organization at Edison Source, which brought EarthSource green power to the California market and discounted electricity to Philadelphia customers. From 1988-1990 and 1999-2002, I worked for PA Consulting Group (also PHB Hagler Bailly and Theodore Barry and Associates) in the retail strategy

1 group, helping energy service providers launch new businesses in newly
2 open retail markets across the country.

3 Q 4 What is the purpose of your testimony?

4 A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General
5 Rate Case:

- 6 • Exhibit (PG&E-1), "Revenue Allocation and Rate Design":
 - 7 – Chapter 10, "TOU Period Customer Insights and Implementation";
 - 8 and
 - 9 – Appendix H, "Customer Survey – TOU Periods."

10 Q 5 Does this conclude your statement of qualifications?

11 A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF KEITH B. COYNE

Q 1 Please state your name and business address.

A 1 My name is Keith B. Coyne, and my business address is Pacific Gas and Electric Company, 77 Beale Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am an Expert Rate Analyst in the Electric Rates section of the Customer Proceedings and Rates Department. My responsibilities include developing and evaluating electric rates for the agricultural and small-, medium-, and large commercial and industrial customer classes.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Arts degree in Mathematics and Economics from Occidental College in 1978, and a Master's degree in Business Administration from University of California, Los Angeles in 1980.

I joined PG&E in 1980 as an Economic Analyst in the Economics and Statistics Department. I transferred to the Rates Department in 1984, and served as the Residential Time-of-Use (TOU) Project Manager between 1984 and 1988. Between 1989 and 1994, I was responsible for residential electric rate design, sponsoring testimony in PG&E's 1991 and 1992 Electric Rate Design Window (RDW) and 1993 General Rate Case (GRC) Phase II proceedings.

In 1994, I assumed my present responsibilities for commercial and industrial rate design, sponsoring testimony in PG&E's 1995 and 1997 Electric RDW, and 1996 and 1999 GRC Phase II proceedings. In 1999, I assumed my present responsibilities for agricultural rate design, sponsoring testimony in the 1999 GRC Phase I. In 2001, I served as a witness in the Rate Design phase of the Rate Stabilization Plan proceeding addressing the three-cent generation surcharges.

In 2002 and 2003, I sponsored electric revenue estimation and rate design testimony in PG&E's 2003 GRC Phase I. I also sponsored agricultural, commercial, and industrial rate design testimony in PG&E's 2003, 2007, 2011, and 2014 GRC Phase II, as well as electric rate design

1 testimony in the 2006 and 2007 Forecast Energy Resource Recovery
2 Account cases, and agricultural rate design testimony in the proceeding for
3 rate and line extension incentives for conversion of stationary agricultural
4 irrigation internal combustion equipment to electric service.

5 I also sponsored mobile home park baseline diversity benefit testimony
6 in the 2007, 2011, and 2014 GRC Phase II proceedings. In 2015,
7 I sponsored rate design testimony for the new residential Schedule E-TOU
8 rates with a shorter 4-month summer season, and later 3-8 p.m. or 4-9 p.m.
9 on-peak hours.

10 Finally, I also served as regulatory case manager for PG&E's 2010
11 RDW Residential Peak-Time Rebate Proposal, and case-managed a
12 number of prior GRC Phase II and mobile home park proceedings.

13 Q 4 What is the purpose of your testimony?

14 A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General
15 Rate Case:

- 16 • Exhibit (PG&E-1), "Revenue Allocation and Rate Design":
 - 17 – Chapter 4, "Residential Rate Design";
 - 18 ○ Section J, "Electric Master Meter Discounts";
 - 19 – Part 2, "Diversity Benefit Adjustment";
 - 20 – Chapter 6, "Medium and Large Light and Power Rate Design";
 - 21 – Chapter 7, "Agricultural Rate Design"; and
 - 22 – Appendix E, "Agricultural Rate Design Collaborative Report."

23 Q 5 Does this conclude your statement of qualifications?

24 A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF AMITAVA DHAR

Q 1 Please state your name and business address.

A 1 My name is Amitava Dhar, and my business address is Pacific Gas and Electric Company, 77 Beale Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 My title is Manager, Regulation in Regulatory Affairs. I am responsible for rate design.

Q 3 Please summarize your educational and professional background.

A 3 I received a Ph.D. degree in Mechanical Engineering from Texas A&M University and am a chartered Financial Analyst charter-holder. After I completed my Ph.D. in 1995, I have worked in the banking and energy industries. Companies/Institutions I worked for include Los Alamos National Laboratory, CASA Inc., Household Credit Services, Enron Corporation, Williams Energy Marketing and Trading, Shell Oil Company, and currently PG&E. Within PG&E, I was previously Director of Quantitative Analysis in Market Risk Management Department before joining Electric Rates function in June 2012.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General Rate Case:

- Exhibit (PG&E-1), "Revenue Allocation and Rate Design":
 - Appendix C, "Examination of Relevant and Appropriate Demand Charges."
- Exhibit (PG&E-2), "Marginal Costs":
 - Chapter 1, "Introduction to Marginal Cost Proposals";
 - Chapter 12, "Optimal Non Residential TOU Period Analysis"; and
 - Appendix D, "Marginal Cost Workshops."

Q 5 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF AMIN FAKHRAZARI

Q 1 Please state your name and business address.

A 1 My name is Amin Fakhrazari, and my business address is Pacific Gas and Electric Company, 77 Beale Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am a Senior Quantitative Analyst in the Electric Rates Department. I am responsible for design and implementation of data analytics projects.

Q 3 Please summarize your educational and professional background.

A 3 I received a Ph.D. degree in Electrical and Computer Engineering from the University of Nebraska-Lincoln in 2015, a Master of Science degree in Mechanical Engineering from Sharif University of Technology in 2008 and a Bachelor of Science degree in Electrical Engineering from Amirkabir University of Technology in 2002. In my Ph.D. research, I mainly focused on predictive analytics in smart power systems.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General Rate Case:

- Exhibit (PG&E-2), "Marginal Costs":
 - Chapter 9, "Generation PCAF Analysis;"
 - Chapter 10, "Distribution PCAF Analysis;" and
 - Appendix E, "Distribution Standby Load Diversity Study."

Q 5 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF PATRICIA C. GIDEON

Q 1 Please state your name and business address.

A 1 My name is Patricia C. Gideon, and my business address is Pacific Gas and Electric Company, 77 Beale Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am a Principal Regulatory Analyst in the Electric Rate Operations section of the Analysis and Rates Department. My functional responsibilities include preparing retail electric revenue allocation and rate design analysis, testimony, and other analytical and regulatory support, as necessary, for regulatory proceedings.

Q 3 Please summarize your educational and professional background.

A 3 In 1983, I received a Bachelor of Science and Commerce degree in Accounting from Santa Clara University. In 1989, I received a Master's of Business Administration degree, also from Santa Clara University. From 1989 through 2003, I worked for MCI/WorldCom in various positions in the business development, account management and regulatory/tariffing departments. I joined PG&E in 2004 as a Senior Regulatory Analyst in the Generation Procurement Policy and Planning group within the Energy Revenue Requirements Department. In 2006, I moved to the Capital Accounting Department where I was responsible for asset sales, forecasting of depreciation and Allowance for Funds Used During Construction expenses and rate base reporting. I joined the Electric Rates section in 2008.

I have previously sponsored testimony on revenue allocation before the California Public Utilities Commission, in PG&E's 2011 and 2014 Phase II General Rate Cases. I have also sponsored testimony before the Federal Energy Regulatory Commission (FERC) on revenue allocation and retail rate design for transmission-related rate components subject to FERC jurisdiction.

1 Q 4 What is the purpose of your testimony?

2 A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General
3 Rate Case:

- 4 • Exhibit (PG&E-1), "Revenue Allocation and Rate Design":
5 – Chapter 8, "Streetlighting Rate Design."

6 Q 5 Does this conclude your statement of qualifications?

7 A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF JAN GRYGIER

Q 1 Please state your name and business address.

A 1 My name is Jan Grygier, and my business address is Pacific Gas and Electric Company, 77 Beale Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am a Principal Analyst in the Energy Policy, Planning and Analysis Department within Energy Policy and Procurement. I provide quantitative modeling and analytical support on policy and planning issues associated with utility owned generation, energy storage, and energy procurement. I am one of the PG&E employees with responsibility for PG&E's calculations of costs and benefits of energy storage devices.

Q 3 Please summarize your educational and professional background.

A 3 I graduated from the University of Toronto with a Bachelor of Science degree in 1978. I received a Doctorate degree in Environmental Systems Engineering from Cornell University, in Ithaca, New York, in 1983.

From 1987-1988, after a three-year post-doctoral fellowship at Cornell University, I worked on modeling, analysis and reports for environmental impact statements and other projects including the Super-conducting Supercollider for URS Consultants in Sacramento, California.

From 1988-1990, I worked as an Operations Research Analyst and Programmer at Synergo consulting in Ottawa, Ontario.

In 1990, I started work at PG&E in San Francisco as an independent contractor, and was in charge of hydrologic applications and modeling of the physical hydropower system in the stochastic mid-term SOCRATES hydro scheduling model. I was also lead developer of the Swift physically-based rainfall/runoff model.

I joined PG&E as an employee in 1997, initially as a Senior Operations Research Analyst in the Systems Engineering Group. I maintained responsibility for all flow forecasting and hydro scheduling models at PG&E, and later matrixed in to the Power Generation organization as Hydro Scheduling Consultant for the Mokelumne and Kings watersheds, where I

1 participated in negotiations with downstream water rights holders and
2 provided strategic advice on operations and energy pricing of the Helms
3 Pump Storage Plant (PSP). The experience with Helms PSP led to
4 developing an operations and benefits model for PG&E's pilot
5 sodium-sulphur battery in 2008.

6 In 2006-2010, I prepared analysis and testimony for Energy Resource
7 Recovery Account filings, and presented tutorials on hydro forecasting and
8 scheduling to the California Public Utilities Commission's Division of
9 Ratepayer Advocates.

10 After a nine-month sabbatical, I joined the Energy Policy Planning and
11 Analysis Department as a principal in Greenhouse Gas (GHG) Market
12 Readiness. I was responsible for assessing the design of California's GHG
13 Cap and Trade market under Assembly Bill 32, and the readiness of the Air
14 Resources Board and other compliance entities prior to and immediately
15 following the launch of the market. As part of this effort, I led PG&E's
16 analytical team and recruited multiple co-funding stakeholders for an
17 experimental economics study of the GHG market.

18 With the GHG Cap and Trade market successfully launched in 2013,
19 I provided support and modeling to PG&E's Energy Storage Request for
20 Information, and became a prime architect of a new stochastic model of
21 Renewables Portfolio Standard procurement.

22 Since transitioning to a principal position in the Energy Policy Modeling
23 and Analysis group in December 2013, I have worked on energy storage
24 evaluation, drought-related hydro analysis, energy price scenarios and
25 marginal generation costs, and new mid-term hydro scheduling models
26 being developed by Short-Term Electric Supply and Value Based Reliability.
27 I sponsored Chapter 2, "Hourly Marginal Generation Costs" in PG&E's 2015
28 Rate Design Window application.

29 Q 4 What is the purpose of your testimony?

30 A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General
31 Rate Case:

- 32 • Exhibit (PG&E-2), "Marginal Costs":
 - 33 – Chapter 2, "Marginal Generation Costs."

- 1 Q 5 Does this conclude your statement of qualifications?
- 2 A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF RONALD JANG

Q 1 Please state your name and business address.

A 1 My name is Ronald Jang, and my business address is Pacific Gas and Electric Company, 245 Market Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E or the Company).

A 2 I am a Principal Third-Party Relations Specialist in the Community Vitality section of the Customer Care Department. My section is primarily responsible for two areas, one, working in partnership with cities, counties and local economic development organizations to retain, expand and attract business customers in PG&E's service territory, and, two, for managing the business relationship with the energy service providers who provide gas and electric commodity to customers in PG&E's service area through our customer choice programs.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Science degree in Civil Engineering/Material Science & Engineering from the University of California at Berkeley and a Master of Science degree in Environmental Management from the University of San Francisco. I began employment with PG&E in September 1977 as a New Business Representative coordinating the installation of new gas and electric services. Since that time, I have held various positions in our Regulatory Relations and Customer Care Departments ensuring that our assigned CPUC direct access, community choice aggregation and core gas aggregation tariffs are correctly interpreted and consistently implemented within the Company's service territory. In January 2016, I assumed my current position where I am involved with the interpretation and implementation of our economic development tariff.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General Rate Case:

- Exhibit (PG&E-1), "Revenue Allocation and Rate Design":
 - Chapter 11, "Economic Development Rates."

- 1 Q 5 Does this conclude your statement of qualifications?
- 2 A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF BRIAN M. LUBECK

Q 1 Please state your name and business address.

A 1 My name is Brian M. Lubeck, and my business address is Pacific Gas and Electric Company, 77 Beale Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I hold the title of Expert Regulatory Analyst. I am on the Electric Rates team in the Customer Proceedings and Rates division of Regulatory Affairs. I am responsible for preparing marginal costs, assisting with load forecasting, writing testimony and calculating rates. I also provide other analytical and regulatory support, as necessary, for regulatory proceedings.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Science degree in Mathematics from the University of Notre Dame in 2003. I received the Associate Designation from the Casualty Actuarial Society in 2009. Currently, I am enrolled at San Diego State University in their Master's of Arts program in Mathematics. I am in the process of writing my thesis to complete the program requirements. I worked in the insurance industry as an actuary for 10 years. I joined PG&E in 2015.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General Rate Case:

- Exhibit (PG&E-2), "Marginal Costs":
 - Chapter 8, "Marginal Revenue Cycle Service Marginal Costs";
 - Chapter 11, "Final Line Transformer Load Analysis"; and
 - Appendix B, "Schedule E-Credit Update."

Q 5 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF SATVIR NAGRA

Q 1 Please state your name and business address.

A 1 My name is Satvir Nagra, and my business address is Pacific Gas and Electric, 705 P Street, Fresno, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am a Manager of the Electric Distribution Planning Department within the Asset Management organization.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Science degree in Electrical Engineering from California Polytechnic State University, San Luis Obispo, in 1992. I am a Registered Professional Engineer in the state of California. For the past 24 years, I have held positions of increasing responsibility at PG&E focused on Electric Distribution Planning.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General Rate Case:

- Exhibit (PG&E-2), "Marginal Costs":
 - Chapter 5, "Distribution Expansion Planning Process and Projected Costs."

Q 5 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF DANIEL R. PEASE

Q 1 Please state your name and business address.

A 1 My name is Daniel R. Pease, and my business address is Pacific Gas and Electric Company, 77 Beale Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am a Principal Regulatory Specialist in the Rate Design and Quantitative Analysis section of the Analysis and Rates Department. I am responsible for preparing and presenting electric rate design proposals before the California Public Utilities Commission.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Science degree in Civil Engineering from Washington State University in 1978. I am a registered Civil Engineer in the state of California. I began my employment with PG&E as an Engineer in the General Construction Department from 1978-1983. In 1983, I transferred to the Cogeneration section, within the Siting Department, where I was responsible for various cogeneration Power Purchase Agreements and related matters. I moved to the Rates Department in 1989, where I was a team leader, responsible for Electric Rate Design. In May 1997, I became a Manager in the Electric Rate area. I assumed my current position in July 2010.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General Rate Case:

- Exhibit (PG&E-1), "Revenue Allocation and Rate Design":
 - Chapter 1, "Revenue Allocation and Rate Design Policy";
 - Chapter 9, "Standby Rate Design";
 - Appendix F, "Agricultural Balancing Account Study Report"; and
 - Appendix I, "Summary of Compliance Requirements."

Q 5 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF PHILIP J. QUADRINI

Q 1 Please state your name and business address.

A 1 My name is Philip J. Quadrini, and my business address is Pacific Gas and Electric Company, 77 Beale Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am a senior regulatory analyst in the Electric Rates section of the Rates Department.

Q 3 Please summarize your educational and professional background.

A 3 I graduated with a Bachelor of Arts degree in Economics in 1976 from the University of Notre Dame, in Indiana. I joined PG&E after earning a Master of Business Administration degree from the University of California, Berkeley, in 1980. My career at PG&E has included analyzing and designing conservation and energy efficiency programs, managing commercial time-of-use and load management programs, designing residential and Small Light and Power rates, and testifying as a rate design witness for PG&E in each of the General Rate Case Phase II proceedings since 1993. I am currently an Expert Regulatory Analyst.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General Rate Case:

- Exhibit (PG&E-1), "Revenue Allocation and Rate Design":
 - Chapter 4, "Residential Rate Design, Sections A through I"; and
 - Chapter 5, "Small Light and Power Rate Design."

Q 5 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF MARCO RIOS

Q 1 Please state your name and business address.

A 1 My name is Marco Rios, and my business address is Pacific Gas and Electric, 245 Market Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am a Manager of the Electric Transmission System Planning Department within the Asset Management organization. I am responsible for overseeing three distinct groups that manage PG&E's transmission system planning activities including annual reliability assessments of the PG&E transmission system, generation and load interconnections to the PG&E transmission system as well as other regional planning activities.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Science degree in Electrical Engineering from San Francisco State University, in San Francisco, California in 1998.

From 1999 to 2007 I worked as a Transmission Planner within PG&E's Transmission System Planning Department and held positions with increasing responsibilities focused on electric transmission system planning.

From 2007 to 2008 I worked as Senior Energy Policy and Planning Analyst in the Energy Policy Planning and Analysis Department where I provided analytical support on electric transmission system matters.

In 2008 I returned to the Transmission System Planning Department as supervisor of the System Planning group where I managed direct reports that were responsible for performing a multi-year assessment to evaluate PG&E's electric transmission system capability to safely and reliably meet future electricity needs. In 2014 I became Manager of the department.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General Rate Case:

- Exhibit (PG&E-2), "Marginal Costs":
 - Chapter 3, "Deferrable Transmission Capacity Projects."

- 1 Q 5 Does this conclude your statement of qualifications?
- 2 A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF TYSEN STREIB

Q 1 Please state your name and business address.

A 1 My name is Tysen Streib, and my business address is Pacific Gas and Electric Company, 77 Beale Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am a Senior Regulatory Specialist in the Electric Rates Operations group in the Regulatory Proceedings and Rates organization, and I am responsible for the design and operation of PG&E's filing-quality electric ratemaking models.

Q 3 Please summarize your educational and professional background.

A 3 I received a Bachelor of Science degree in Chemical Engineering from the University of California, Berkeley in 1998, and a Master's degree in Business Administration from Santa Clara University in 2006. From 1998 to 2007, I held various quantitative analysis and product management positions in the chemical analysis, semiconductor, and financial industries. I joined PG&E in 2007 as a senior financial analyst in the Management Reporting group within Finance, and moved to Regulatory Proceedings and Rates in 2012.

Q 4 What is the purpose of your testimony?

A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General Rate Case:

- Exhibit (PG&E-1), "Revenue Allocation and Rate Design":
 - Chapter 2, "Calculation of Marginal Cost Revenue";
 - Chapter 3, "Revenue Allocation";
 - Appendix A, "Revenue and Average Rate Summary at Proposed Rates"; and
 - Appendix D, "Small and Medium Commercial Class Cost of Service."

Q 5 Does this conclude your statement of qualifications?

A 5 Yes, it does.

PACIFIC GAS AND ELECTRIC COMPANY
STATEMENT OF QUALIFICATIONS OF THOMAS L. TROUP

Q 1 Please state your name and business address.

A 1 My name is Thomas L. Troup, and my business address is Pacific Gas and Electric Company, 77 Beale Street, San Francisco, California.

Q 2 Briefly describe your responsibilities at Pacific Gas and Electric Company (PG&E).

A 2 I am an Expert Rate Analyst in the Customer Proceedings and Rates Department. I provide analytical support and preparation of rates cases, and I am one of the PG&E employees with primary responsibility for PG&E's calculations of marginal costs that are used in revenue allocation and rate design.

Q 3 Please summarize your educational and professional background.

A 3 In 1985, I received my Bachelor of Science degree in Geology from Indiana University, Bloomington, Indiana. In 1990, I received my Master of Science degree in Geochemistry and Mineralogy from Pennsylvania State University, University Park, Pennsylvania. In 1991, I received my Master of Business Administration degree with concentrations in Corporate Finance and Operations Management from the Kelley School of Business at Indiana University.

I am a member of the Security Analysts of San Francisco and a member of the CFA Institute.

From 1991-1993, I was employed by Illinois Power Company with primary responsibilities in strategic planning, merger and acquisition analyses, and corporate development. I prepared Illinois Power's cost of equity analyses under the direction of the cost of capital witness in the company's 1993 gas rate case before the Illinois Commerce Commission. From 1993-1997, I was employed by LG&E Energy Corporation, the parent company of Louisville Gas and Electric Company, where I held positions in strategic planning, financial planning and accounting, and trade finance and cash management.

From 1997-2002, I held positions in the treasury and finance fields outside of the utility industry.

1 In March 2002, I joined PG&E as a Senior Regulatory Analyst in the
2 Operations Revenue Requirements Department. Currently, I am an Expert
3 Rate Analyst in the Customer Proceedings and Rates Department.

4 I have previously participated in proceedings before the California Public
5 Utilities Commission: I filed marginal cost testimony in PG&E's 2003, 2007,
6 2011 and 2014 General Rate Case (GRC) Phase II showings; testified on
7 PG&E's master meter discount calculations in PG&E's 2011 GRC Phase II;
8 sponsored master meter discount calculation testimony in PG&E's 2014
9 GRC Phase II showing; and I sponsored cost recovery testimony in PG&E's
10 Critical Peak Pricing Application, A.05-01-016.

11 Q 4 What is the purpose of your testimony?

12 A 4 I am sponsoring the following testimony in Phase II of PG&E's 2017 General
13 Rate Case:

- 14 • Exhibit (PG&E-1), "Revenue Allocation and Rate Design":
 - 15 – Chapter 4, "Residential Rate Design," specifically the "Electric
 - 16 Master Meter Discounts" Section F, all parts except Part 2,
 - 17 "Diversity Benefit Adjustment."
- 18 • Exhibit (PG&E-2), "Marginal Costs":
 - 19 – Chapter 4, "Marginal Transmission Capacity Costs";
 - 20 – Chapter 6, "Marginal Distribution Capacity Costs";
 - 21 – Chapter 7, "Marginal Customer Access Costs";
 - 22 – Chapter 13, "Marginal Cost Loaders and Financial Factors"; and
 - 23 – Appendix A, "Mathematical Formulation of the Discounted Total
 - 24 Investment Method (DTIM) and Alternative Methods to Compute
 - 25 Marginal Distribution Capacity Costs."

26 Q 5 Does this conclude your statement of qualifications?

27 A 5 Yes, it does.