

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

Application of PACIFIC GAS AND  
ELECTRIC COMPANY for  
Authority to Increase Revenue  
Requirements to Recover the Costs to  
Upgrade its SmartMeter™ Program

Application No. 07-12-009  
(Filed December 12, 2007)

**DECLARATION OF STEPHEN P. LECHNER ADDRESSING COSTS AND OTHER  
IMPACTS RELATED TO A MORATORIUM ON PG&E'S SMARTMETER™  
PROGRAM**

PETER OUBORG  
CHONDA J. NWAMU

Pacific Gas and Electric Company  
77 Beale Street  
San Francisco, CA 94105  
Telephone: (415) 973-2286  
Facsimile: (415) 973-0516  
E-Mail: PXO2@pge.com

Attorneys for  
PACIFIC GAS AND ELECTRIC COMPANY

Dated: August 25, 2010

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SMARTMETER™ PROGRAM**

I, Stephen P. Lechner, declare and state as follows:

**INTRODUCTION, BACKGROUND, AND QUALIFICATIONS**

1. I am currently a principal at PricewaterhouseCoopers (PwC) in San Francisco, California where I lead PwC's Capital Project Services Group.
2. The purpose of this declaration is to provide data on the potential costs and other impacts that could result if the California Public Utilities Commission imposes a moratorium on PG&E's SmartMeter™ Program deployment. Based on my professional background and experience, and my detailed understanding of PG&E's SmartMeter™ Program, suspending the Program could have severe cost consequences – well in excess of the cost estimates contained in PG&E's responses to DRA's data requests -- and could even force PG&E to cancel the Program or significantly redefine the Program scope and implementation approach.
3. For the past 27 years, I have specialized in analyzing costs, performing special purpose audits and financial assessments, and analyzing and advising clients on cost, schedule and management controls and procedures, primarily in conjunction with large capital projects, commercial disputes and regulatory proceedings. A large part of my work has involved the analysis of costs, budgets, estimating

- methods and cost control mechanisms on construction projects and capital programs throughout the world. I have had a particular emphasis on capital projects in the regulated energy sector.
4. I have assessed project governance structures and control environments, analyzed cost, scope, delay and productivity impacts caused by internal and external factors and evaluated the reasonableness of the actions and decisions made by various stakeholders in relation to project performance. My clients include many large utility companies throughout the world. Through this work, I have gained deep knowledge of common industry practices related to project control processes and procedures and methods of reporting project status and metrics to various project stakeholders.
  5. I have also worked on numerous capital projects that have been adversely affected by delays, including the suspension of individual components of the work and, in some cases, the entire project. My role on these engagements has been to analyze the cost, scope and schedule implications of project suspensions and to advise clients regarding reasonable approaches to managing the significant uncertainty created by these often costly interruptions.
  6. For example, on a recent engagement for a major utility in the Southern United States, I was asked to advise the utility on approaches to managing the temporary suspension of a major capital project at the direction of a Public Utility Commission. In that case, unforeseeable external factors led to a temporary project suspension, as the utility assessed the economic implications of the US economic downturn in 2008. Ultimately, the temporary suspension led to a long-term project suspension, and I worked with the utility to mitigate the substantial costs and other consequences resulting from the long-term project suspension. The additional costs included the direct costs of initial contract renegotiations and ultimate terminations along with the substantial costs of disrupting the utility's

materials and equipment supply chain. The supply chain disruption required the utility to take possession of, salvage or abandon portions of its procured materials and equipment and to support the resolution of multiple disputes between its contractors and suppliers.

7. In another example, I was retained by a contractor on a large capital project in the Midwestern United States to perform a comprehensive assessment of the costs, delay and disruption related to a series of project suspensions and the subsequent contract termination for convenience. In this matter, the project owner had suspended several parts of the work during the course of the project, which dramatically increased the project costs under the contract. These costs included extended management and overhead costs caused by the suspension and resulting project delays; the substantial cost of labor disruption and extra work caused by project scope changes resulting from the suspensions; and losses of labor productivity upon re-start of the suspended activities. Considering the substantial cost increases, the project owner decided to terminate the contract for convenience and re-bid the contract under different performance parameters. Following the contract termination, the contractor and project owner entered into a prolonged dispute over the costs of the suspension and contract termination, which ultimately forced the contractor into bankruptcy.
8. I have been directly involved in PG&E's SmartMeter™ Program for the past five years and I have previously testified before the California Public Utilities Commission (CPUC) on several occasions in relation to PG&E's SmartMeter™ Program, including submitting testimony in relation to PG&E's prior consideration of a Program suspension in connection with the SmartMeter™ Program Upgrade (Application 07-12-009).

A copy of my full *curriculum vitae* is provided in Attachment 1 to this Declaration.

## **POTENTIAL IMPACT OF SUSPENSION OF PG&E'S SMARTMETER™ PROGRAM**

1. Suspending a large capital project is a major endeavor. It is extremely costly and disruptive and introduces significant risk to continued project performance. Because of the serious adverse implications of project suspension and the high costs and risks associated with re-starting a major project, an experienced project owner will consider suspending a capital project only after it has exhausted all available alternatives.
2. PG&E is currently in an advanced stage of deployment on its SmartMeter™ Program. It has an active, mature project management office (PMO), a fully trained contractor team with significant experience installing PG&E's current metering devices and network equipment, a structured supply chain to support the current installation schedule, and a comprehensive control environment to support the numerous interrelated work streams necessary to implement SmartMeter™ technology and realize the system's full benefits.
3. Suspending the SmartMeter™ Program at this point in its life cycle would have significant adverse cost and schedule implications to the Program. It would lead to material losses in operational benefits and delay realization of future demand response benefits, adversely affecting PG&E's customers. PG&E would also incur significant costs that would continue to increase throughout the suspension and incremental costs that would extend beyond the suspension period.
4. In response to a data request submitted by DRA, PG&E developed an estimate of potential costs and lost benefits associated with several suspension scenarios articulated by DRA. Quantifying the costs and lost benefits due to a potential suspension of a major capital project is an extremely complex task due to the significant uncertainty created in a suspension situation. PG&E's quantification of additional costs and lost benefits represents an arithmetic exercise reflecting a

set of defined assumptions considering time certain suspension scenarios. But predicting the actual length of a suspension and how long the full resumption of work will take to accomplish, when it is attempted at some indefinite date in the future, is always fraught with uncertainty. Therefore the ultimate costs and lost benefits resulting from a Commission-mandated suspension of PG&E's SmartMeter™ Program may significantly exceed the amounts included in PG&E's response to DRA's data request.

5. Although PG&E attempted to calculate both the lost benefit costs and direct costs associated with a suspension given a defined set of assumptions, PG&E would also be exposed to significant additional delay and disruption costs that would likely extend beyond the period of suspension itself. Naming only a few examples, a Program suspension would create other potential losses such as incremental costs associated with Program scope changes due to suspension, the loss of employees that have already obtained the relevant expertise and the cost of training replacements when work resumes, litigation costs, costs associated with the renegotiation of contracts and costs of further regulatory filings. None of these costs can be reliably quantified today, but they stand to be quite substantial.
6. In the event of a Commission-mandated moratorium, PG&E's ultimate costs could be significantly higher than those included in PG&E's response to the DRA data request. The loss of customer benefits would likely be greater as well, due to the likely addition of consequential delays caused by a Program suspension.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 25, 2010.

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/s/  
Stephen P. Lechner

## ATTACHMENT 1



### Curriculum vitae

**Name:** Stephen P. Lechner  
**Current position:** Principal, Advisory Services, PricewaterhouseCoopers LLP  
**Qualifications:** Bachelor of Science, Civil Engineering, University of Illinois, Urbana, Illinois, 1980  
MBA, University of Illinois, Urbana, Illinois, 1982

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#### Job history: (PricewaterhouseCoopers, or predecessor firm, unless otherwise stated)

<b>October 2002 to date</b>	Principal, Advisory Services, San Francisco, California
<b>July 2001 to September 2002</b>	Partner, Corporate Finance and Recovery, Melbourne, Australia
<b>January 2000 to June 2001</b>	Director, Corporate Finance and Recovery, Melbourne, Australia
<b>November 1997 to December 1999</b>	Director, Financial Advisory Services, San Francisco, California
<b>September 1996 to October 1997</b>	Independent Consultant (construction, environmental and energy consulting), Larkspur, California
<b>1990 to August 1996</b>	Vice President, Peterson Consulting, San Francisco, California
<b>1982 to 1990</b>	Consultant, Peterson Consulting, Chicago, Illinois and San Francisco, California

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#### Key experience

Stephen Lechner is a principal in PricewaterhouseCoopers' Advisory Services practice based in San Francisco, California and leads PwC's Capital Project Services practice in North America. He specializes in providing cost and schedule analysis, project management consulting, economic and cost accounting analyses and general consulting for clients in design, construction, environmental, energy, manufacturing and other commercial industries. Steve has been retained as an expert on cost, schedule, performance and regulatory issues related to major capital projects and other programs in the US, Canada, Hong Kong, Mainland China, Australia and the Philippines. Steve has consulted clients involved in capital projects, disputes and regulatory matters for over twenty five years. He has extensive experience evaluating the reasonableness of capital expenditures, cost and schedule control systems, cost accounting practices under US Federal Acquisition Regulations (FAR), commercial damages claims, procurement practices and regulatory compliance efforts. His consultation has involved the analysis and development of corporate governance structures and control environments for capital

programs, detailed project delay, cost, production and productivity analysis, assessments of project management control tools and procedures, project risk management, prospective and retrospective analysis of cost and management reasonableness, and assessments of economic impacts related to disputes and regulatory requirements. Additionally, Steve has participated in dispute mediations and settlement negotiations, was an arbitrator in a power plant contract dispute and has submitted evidence in a variety of civil and administrative proceedings around the world.

Prior to joining PricewaterhouseCoopers, Steve was a vice president with an international consulting firm specializing in construction, environmental, insurance and energy disputes and litigation support services.

### **Affiliations**

American Society of Civil Engineers  
Chi Epsilon Honorary Civil Engineering Fraternity  
American Bar Association, Associate Member

### **Speeches and seminars**

Steve has instructed numerous seminars on capital project governance practices, cost modelling techniques, project cost and schedule evaluations, cost accounting, project risk management and the use of advanced multi-media techniques to present liability, delay and damages issues in dispute resolution. Additionally, he has instructed lawyers on the preparation and analysis of claims and general cost accounting practices through his involvement with the Trial Advocacy Program sponsored by the Public Contracts Section of the American Bar Association.

### **Publications**

Chapter 26, "Construction Claims," *Litigation Services Handbook, Fourth Edition, The Role of the Financial Expert*, John Wiley and Sons, Inc., 2007 (Co-authored with Bilge Astarlioglu).  
"Managing Large Scale Capital Projects," *Utility Products*, September 2007 (Co-authored with David Etheridge).  
"Methods of Analyzing Delay and Disruption on Construction Projects," *Construct*, ABA Section of Litigation, Winter 2006, Vol 15, No. 2.

### **Testimony (excluding depositions and mediation proceedings)**

PG&E 2009 Rate Design Window Application (A. 09-02-022), Expert witness on the incremental nature of estimated costs related to proposed dynamic pricing tariffs and the reasonableness of contingency calculations included in cost estimates, California Public Utilities Commission, San Francisco, CA, 2009.

PG&E SmartMeter<sup>TM</sup> Program Upgrade Application (A. 07-12-009), Expert witness on the reasonableness of cost calculations, California Public Utilities Commission, San Francisco, CA, 2008.



Mackie and Staff v Glengollan Village for the Aged, Expert witness on cost issues, State Court of Victoria, Melbourne, Australia, 2007.

Mirant v Ove Arup, Expert witness on cost and scheduling issues, Technical and Construction Court, London, UK, 2006.

PG&E AMI Application (A. 05-06-028), Expert witness on the reasonableness of cost calculations, California Public Utilities Commission, San Francisco, CA, 2005.

GE Engine Services v Chartwell Aircraft Co., Inc., Expert witness on scheduling issues, Arbitration, Los Angeles, CA, 2005.

PG&E Electric Restructuring Costs Account Application (A. 00-07-013), Expert witness on cost accounting issues, California Public Utilities Commission, San Francisco, CA, 2004.

PG&E Tree Trimming OII Proceeding, Expert witness on cost and program management issues, California Public Utilities Commission, San Francisco, CA, 1999.

### **Relevant project experience**

- Provided advisory services to a major US public utility in relation to its development of a comprehensive governance structure and project control environment for construction of two new nuclear power generation facilities. Continuing to act as the independent project advisor for the project.
- Provided advisory and expert services to a major corporation in relation to a contract dispute regarding the supply of an advanced train control system. Performed a detailed analysis of costs related to the rescission of various contract change orders, which amounted to a retrospective termination of the supply contract.
- Assessment of contractor performance in relation to a multi-building telecommunications equipment and infrastructure upgrade on behalf of a California university. Presented findings in a "mini-trial" proceeding.
- Advised a major US gas and electric utility regarding its management of a long term suspension of a major capital project. Provided observations and recommendations regarding approaches to mitigate the adverse cost implications of the project suspension and advised the utility in relation to managing the wind-down of various contractor and equipment supplier work streams.
- Advised an energy company in Eastern Canada on the development of a corporate standards and compliance organization and control tools and procedures to manage the risks associated with its major capital programs. Continuing to act as an external advisor to a corporate steering committee responsible for major project delivery.
- Interim assessment of project management control tools and contract audit procedures on behalf of the owner of a major university medical facility under construction in Hawaii.

- Provided advisory services to a public utility in relation to establishing commercial terms in a major engineering/procurement/construction (EPC) contract for a proposed coal-fired power plant.
- Assessment of capital project management governance structure and control environment for a major North American oil and gas pipeline company. Provided recommendations for project risk management tools and procedures and developed a framework for future compliance testing.
- Interim assessment of construction manager and contractor performance and control environment related to project scheduling in relation to a multi-billion dollar mixed use commercial facility in Las Vegas, Nevada.
- Analysis of extra works, delay, disruption and acceleration related to the construction of a major rail project in Hong Kong on behalf of a joint venture of multinational contractors. Work involved the development of various data accumulation and management systems for ongoing subcontractor cost management and claims resolution. Presented quantum theory and results in mediation proceedings and participated in negotiation sessions with project sponsor representatives.
- Assessment of capital project management, cost estimating approach, governance structure and control environment and development of process improvement recommendations on behalf a major Southeast US energy company preparing to embark on a multi-billion dollar construction program.
- Analysis of schedule delays related to the interior fit-out of a luxury executive aircraft on behalf of the aircraft fit-out contractor. Provided expert evidence in arbitration.
- Analysis of delay and disruption resulting from design changes and unforeseeable conditions on several light rail stations in Hong Kong on behalf of a joint venture of multinational contractors.
- Analysis of schedule delays and cost overruns associated with a major renovation and addition to a juvenile detention facility in California. Presented findings in mediation proceedings.
- Designated scheduling expert for the owner of an educational facility in California in relation to a dispute with contractors on the seismic retrofit of the facility. Presented findings in mediation proceedings.
- Analysis of extra works, disruption and prolongation costs related to civil works at Chek Lap Kok Airport in Hong Kong on behalf of a joint venture of multinational contractors. Presented quantum theory and results in settlement negotiations.
- Analysis of schedule delays and disruption on behalf of a multi-national consortium of contractors in relation to the installation of fibre optic cables for a telecommunication network in Puerto Rico.
- Analysis of project delays and cost overruns on a coal fired power plant in the Philippines. Provided expert witness testimony on delay and quantum issues in the Technical and Construction Court in London, UK.

- Performance audit and analysis of construction management control tools for the construction division of a US State agency.
- Investigation and analysis related to the performance of a contractor “alliance” in relation to the construction of a major public facility in Australia. Efforts included an assessment of alliance and facility owner/operator decisions during the construction period which potentially affected downstream maintenance costs and general compliance with quality standards and design intent.
- Provided advisory services to a major US utility in relation to contractor compliance with commercial terms and conditions on various construction projects.
- Provided advisory services to a major US gas and electric utility related to the reasonableness of costs incurred by the Utility associated with the installation of its new Customer Information System (CIS). The Utility was seeking recovery of CIS development, installation and maintenance costs as part of a General Rate Case filing.
- Analysis of cost overruns, project delays and contractor performance on behalf of a contractor in relation to the construction of an elevated highway in the New Territories of Hong Kong.
- Analysis of costs and contractor performance in relation to a contract termination for convenience on a major public works project in the Midwestern United States on behalf of a contractor joint venture. Submitted an expert report and participated in dispute mediation proceedings.
- Analysis of implementation costs and program benefits related to a major IT system replacement program for a large energy company in California. Performed an audit of incurred costs related to the impact of electric industry restructuring on the system implementation and gave evidence in regulatory proceedings before the California Public Utilities Commission.
- Advised a major US utility regarding commercial aspects of its contracting strategy for several major capital projects including environmental upgrades and proposed nuclear plant engineering, procurement and construction contracts.
- Investigation of construction procedures and control tools used by the construction division of a major US entertainment company in the development of several hotel and gaming facilities based on internal allegations of potential fraud and abuse.
- Reconstruction of historical construction cost information, analysis of cost overruns, CPM schedule analysis assessing project delays, assessment of regulatory impacts, evaluation of cost control and programming methods and tools, analysis of craft productivity, litigation support and testimony preparation related to a US\$4 billion nuclear power plant in Central California. Worked on site during a major facility rectification effort stemming from an alleged structural design error.
- Analysis of delays and associated quantum relating to commissioning activities at a coal fired power facility in Mainland China on behalf of the facility owner. Presented quantum theory and results in settlement negotiations in China.

- Factual framework development, cost and performance analyses related to an investigation of a major US utility's electric distribution system maintenance program. Designated expert on cost and performance measures. Submitted evidence before the California Public Utilities Commission.
- Analysis of incurred costs in relation to a construction and commissioning dispute at a combined cycle power plant in the Philippines.
- Development of a factual framework, detailed cost accumulation and segregation, and coordination of technical experts related to a regulatory filing on behalf of a public utility arising out of the catastrophic failure of a steel pipe at a pumped storage power facility in California.
- Historical analysis of electricity transmission and distribution costs and related utility assumptions in ratemaking proceedings on behalf of a California gas and electric utility for purposes of responding to regulatory requests in a major gas and electric rate setting proceeding.
- Analysis of time damages and consequential loss related to delays, equipment defects and the deficient performance of several cogeneration facilities in Victoria, Australia.
- Cost and schedule analysis related to equipment defect claims at a pumped storage power plant in Central California. Provided comprehensive litigation support and prepared testimony for regulatory filings. Participated in settlement negotiations.
- Evaluation of construction management tools and procedures for a regulatory reasonableness review related to the construction of two nuclear power plants in Illinois.
- Analysis of delay and cost claims submitted to a municipal utility in relation to the construction of an earthen dam and hydroelectric facility in Northern California.
- Reconstruction and analysis of historical developments in foreign and domestic gas regulations and market trends affecting the North American natural gas industry. Efforts included analyses of gas procurement and transportation contract terms, price negotiation strategies, export criteria and the regulatory guidelines and restrictions of several federal, state and provincial agencies. Wrote technical testimony and developed economic models, alternative cost and pricing scenarios and numerous exhibits illustrating the complex elements of the changing natural gas industry in North America.
- Developed cost projections and potential clean-up scenarios for numerous hazardous waste sites for purposes of settlement negotiations between a California public utility and its insurance carriers.
- Developed an environmental risk portfolio model for a public utility in the U.S. to support its risk management efforts and dispute resolution with insurance carriers.
- Provided investigation and litigation support services for a large class action lawsuit related to alleged chromium contamination in groundwater near several California gas

compressor stations. Efforts included the development an image-based document repository and retrieval system for over one million pages of information.

- Analysis of delay and disruption claims submitted by a contractor related to the construction of a multipurpose pipeline in India.
- Analysis of cost overruns and project delays related to the construction of a large US interstate natural gas pipeline expansion for purposes of regulatory approval.
- Analysis of the cost competitiveness of the engineering and construction department of a large California gas and electric utility. Evaluated various performance measures including labour and wage rates, overhead rates, contracted costs, unit cost and productivity, engineering as a percent of construction and general management comparisons such as cost to manage and span of control.
- Analysis of extra work, delay and disruption on behalf of a contractor related to the construction of a multipurpose pipeline in California.
- Analysis of cost overruns and contractor performance related to the construction of an aged care facility in Australia. Provided expert evidence in the State Court of Victoria, Australia.
- Analysis of project delivery, cost growth and delays related to a A\$5 million renovation and expansion of a conference and exhibition centre in Australia.
- Analysis of delay and disruption to the construction of a A\$20 million public facility in Victoria, Australia on behalf of the Project Principal. Presented delay and quantum analysis theory and results in mediation proceedings.
- Development of delay and disruption claim methodology on behalf of a contractor related to the upgrade of a major highway in Victoria, Australia.
- Analysis of construction claims (extra work, delay and disruption) submitted by contractors on a major hospital renovation project in Northern California. Presented findings in dispute mediation.
- Analysis of project variations, cost overruns and delays related to the construction of a A\$30 million mental health facility in Victoria, Australia.
- Analysis of construction claims prepared by an electrical contractor in Australia in conjunction with a bank review of a parent company's operations.
- Analysis of construction claims (extra work, delay and disruption) and comprehensive litigation support for a multi-building educational facility in Northern California. Presented findings in dispute mediation.
- Analysis of design and construction risks associated with a US\$100 million water project (conjunctive use and storage facility) in California. Efforts included an analysis of engineering reports, cost and financing studies, and environmental impact statements and the development of a risk assessment framework submitted to regulatory authorities for purposes of project approval.

- Analysis of construction delay and disruption claim submitted on the reconstruction of a military hydrofoil to a non-military vessel.
- Cost analysis and preparation of request for equitable adjustment submitted to the U.S. Department of Defence related to a high-tech military radar detection equipment contract.
- Interim evaluation of contractor performance on the construction of a middle school in Southern California. Analysed construction management tools, procedures and contractor performance and evaluated potential claim exposure on behalf of the school district.
- Calculation of economic damages and assessment of industry standards related to the propriety of construction estimating data and contractor manuals for an unfair competition dispute between two construction contractors in Northern California.

CERTIFICATE OF SERVICE

I, the undersigned, state that I am a citizen of the United States and am employed in the City and County of San Francisco; that I am over the age of eighteen (18) years and not a party to the within cause; and that my business address is 77 Beale Street, San Francisco, CA 94105.

On August 25, 2010, I served a true copy of:

**DECLARATION OF STEPHEN P. LECHNER ADDRESSING COSTS AND  
OTHER IMPACTS RELATED TO A MORATORIUM ON PG&E'S  
SMARTMETER™ PROGRAM**

- [XX] By Electronic Mail – serving the enclosed via e-mail transmission to each of the parties listed on the official service list for A. 07-12-009 with an e-mail address.
- [XX] By U.S. Mail – by placing the enclosed for collection and mailing in the courts of ordinary business practice, with other correspondence of Pacific Gas and Electric Company, enclosed in a sealed envelope, with postage fully prepaid, addressed to those parties listed on the official service list for A. 07-12-009 without an e-mail address.

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this 25<sup>th</sup> day of August, 2010, at San Francisco, California.

\_\_\_\_\_  
/s/  
PATRICIA A. KOKASON