

STANDARD AGREEMENT

FOR I.T. GOODS/SERVICES ONLY

REGISTRATION NUMBER
AGREEMENT NUMBER 08-330

PURCHASING AUTHORITY NUMBER

1. This Agreement is entered into between the State Agency and Contractor named below:
 STATE AGENCY'S NAME: **AIR RESOURCES BOARD (ARB)** (hereafter called State)
 CONTRACTOR'S NAME: **ITRON, INC., CONSULTING & ANALYSIS SERVICES** (hereafter called Contractor)

2. The term of this Agreement is **APRIL 01, 2009** Through **DECEMBER 31, 2009**

3. The maximum amount of this Agreement is: **\$4,940.00**
FOUR THOUSAND NINE HUNDRED AND FORTY DOLLARS.

4. The parties agree to comply with the terms and conditions of the following attachments which are by this reference made a part of the Agreement:
- Exhibit A – Statement of Work 1 page
 - Exhibit A, Attachment No. 1 – Work Specifications 12 pages
 - Exhibit B – Budget 2 pages
 - Exhibit C* – General Provisions - GSPD-401T (06/21/06) 10 pages
 - Exhibit D* – Personal Services Special Provisions (2/08/07) 5 pages

Items shown with an Asterisk (), are hereby incorporated by reference and made part of this agreement as if attached hereto. These documents can be viewed at www.pd.dqs.ca.gov/modelland/ITModules.htm*

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

CALIFORNIA
 Department of General Services
 Use Only

Exempt per SCM, Vol 1, Section 4.04.A.2 & 5.B

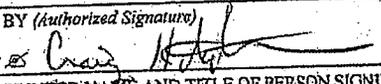
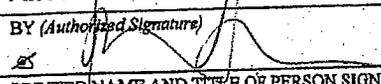
CONTRACTOR	
CONTRACTOR'S NAME (If other than an individual, state whether a corporation, partnership, etc.) ITRON, INC. CONSULTING & ANALYSIS SERVICES	
BY (Authorized Signature) 	DATE SIGNED 5-6-09
PRINTED NAME AND TITLE OF PERSON SIGNING BOB RAMIREZ, PRINCIPAL IMA Controller-Operations	
ADDRESS 11236 EL CAMINO REAL, SAN DIEGO, CA 92130	
STATE OF CALIFORNIA	
AGENCY NAME AIR RESOURCES BOARD (ARB)	
BY (Authorized Signature) 	DATE SIGNED 6/30/09
PRINTED NAME AND TITLE OF PERSON SIGNING SHARON SIMMONS, MANAGER, CONTRACT SERVICES SECTION	
ADDRESS P.O. BOX 2815, SACRAMENTO, CA 95814	

EXHIBIT A

STATEMENT OF WORK

1. The Contractor shall provide consulting to the Air Resources Board, as outlined in Attachment No. 1, to this Exhibit, in support of the California Commercial End-Use Survey (CEUS).
2. The Contract Manager during the term of this agreement will be:

State Agency: Air Resources Board	Contractor: Bob Rodriguez
Name: Glenn Gallagher	
Phone: (916) 327-8041	Phone: (858)724-2650
Fax: n/a	Fax: (858)724-2690
Email: gallagher.glenn@arb.ca.gov	Email: bob.ramirez@ltron.com

Direct all administrative inquiries to:

State Agency: Air Resources Board	Contractor: Bob Ramirez
Section/Unit: Research Division, Contracts	Section/Unit: Consulting and Analysis
Attention: Shana Groff	
Address: 1001 "I" Street, 5 th Floor Sacramento, CA 95814	Address: 11236 El Camino Real San Diego, CA 92130-2650
Phone: (916) 323-1511	Phone: (858)724-2650
Fax: (916) 322-4357	Fax: (858)724-2690
Email: sgroff@arb.ca.gov	Email: bob.ramirez@ltron.com

WORK SPECIFICATIONS:

1. California Commercial End-Use Survey Data Review Service Agreement:

The Contractor, Itron, will review data resulting from the California Commercial End-Use Survey (CEUS) data and provide data and reports to the Air Resources Board. Data and reports may be shared with the California Energy Commission. Data and reports will be used for applications such as (but not limited to):

- Forecasting Model Inputs
- General equipment information requests
- Energy-efficiency potential assessments and program planning.

This document is intended to provide a framework and terminology that can be used for developing data and reports. All work will be executed on a Time & Materials (T&M) basis.

Itron will employ a standardized framework for specifying and executing these reports in SAS. Itron will create a generic structure for data and reports and modify the underlying variables as needed.

Itron will establish and use a defined data and report structure as shown below:

=> Page Dataset Header - Row/SubRow by Column/SubColumn(Value). Report format will be set up as follows:

Page Dataset Header			
Row	SubRow	SubColumn1	SubColumn2
X	Y	Value	Value

Types of Reports: Itron will generate three basic types of reports: Building Characteristics, Equipment Saturations, and End Use Fuel Shares. Each of these report types are discussed in detail below.

1a. Building Characteristic Reports

The formats for these reports are:

- **Building Characteristics by Building Types.** The format for these reports would be Region - BldgCharacteristic by BuildingType. (Total floor area or fraction of total floor area).
 - *Building characteristics* will include owned/leased, vintages, functional use area fractions and lighting power density ranges.

- **Region** bases will include Limited Statewide, IOU, and Forecasting Climate Zones.
- **Building Type** would include both the CEUS-report basis and CEUS-sample basis. Only the simplest building shell characteristics will be considered for this effort, because each premise can consist of multiple and/or partial buildings, and therefore have multiple building shell characteristics.
- **Floor Area and Energy Use Comparisons across Building Types.** These tables format is: Table X-1 through X-5 in the CEUS report. Cross-building comparisons are not currently part of the CEUS on the Web, which only offers results at the individual building type level. The report formats are:
 - **Floor Area, Energy Intensity, and Energy Use Summary.** Region/Fuel – BldgType by Floor Area and Annual Energy Intensity/Fuel and Total Annual Usage/Fuel.
 - **Energy Intensities.** Region/Fuel – BldgType by EndUse (Energy Intensity). Note that the technology types used on the example report may be revised.
 - **Energy Use.** Region/Fuel – BldgType by EndUse (Energy Use). Note that the technology types used on the example report may be revised.
- **Equivalent Full Load Hours.** The format for these reports would be Region - EndUse by Building Type(EFLHs). EFLH values can be easily developed at the end use (not technology) level for nonHVAC end uses from the annual energy use and Connected (or annual peak) Loads.

2a. Equipment Saturation Reports

Equipment saturation reports will only be generated initially for HVAC and Lighting technologies, but can be expanded to other equipment as the time and budget permit. Reports to be generated include:

- **HVAC Equipment Weights.** The format for this report is BldgType/Fuel by EndUse/TechnologyType (% of TechType that uses each Fuel). Note that the technology types used on the example report may be revised.
- **HVAC Equipment Efficiencies.** The report format would be EndUse/Fuel/Technology by Building Vintage (Average efficiency). Building Vintage will be based on the "Year built" field from the CEUS data. A "year business established" field is also available in the data, but it will not be used.
- **Equipment Counts.** This report would provide total weighted quantities of equipment. The format for these reports would be:
Region - Technology/TechSubCategory by Building Type (total # of units). The TechSubCategory might be size categories for HVAC or Wattage for lighting equipment.

- **Equipment Count Fractions.** This report would show the type of equipment that is most predominant for each building type. The format for these reports would be:
 - Region - Technology/TechSubCategory by Building Type (fraction of total units for each building type).
- **Equipment Average Sizes.** This report would show the weighted average equipment sizes. The format for these reports would be
Region - Technology/TechSubCategory by Building Type (average unit size).
- **Equipment Total Loads.** The format for these reports will be
Region - Technology/TechSubCategory by Building Type (load in tons, kBtuh, watts, etc.).
- **Equipment Load Fractions.** The format for these reports would be
Region -Technology/TechSubCategory by Building Type.(load in tons, watts, etc. for each building type).

3a. Energy Use/Fuel Share Reports

The format for these reports would generally be as follows: Region/Vintage – BuildingType/Fuel by EndUse (Fuel Share).

Robert (Bob) Ramirez, P.E.

Principal, Consulting & Analysis
Itron, Inc.

Education

- MSME Coursework (Thermal Sciences), San Diego State University, California, 1988
- BSME, California Polytechnic State University, San Luis Obispo, California, 1983
- Professional Engineer (Mechanical) Certification, State of California, 1995

Employment History

- Principal, Itron, Inc., San Diego, California, 1993-Present
- Thermal Analyst, General Dynamics Space Systems, San Diego, California, 1989-1992
- Fluid Components International, San Marcos, California, 1988-1989
- Design Engineer, EEMCO, Los Angeles, California 1984-1986

Selected Expertise

- Energy Engineering Principles and Simple Engineering Models
- Building Energy Simulation Modeling
- Simple Instrumentation
- Residential Energy Usage
- Residential Energy Audits
- Non-Residential Building Energy Usage
- Analysis of Metering Data
- Commercial Building Energy Audits - Fieldwork
- Industrial and Water/Wastewater Energy Use

Selected Project Experience

We Energies 55 MW DSM Portfolio Evaluation (2006 to present). Mr. Ramirez is the lead engineer for Itron's evaluation of We Energies' portfolio of residential, commercial, industrial, and agricultural electric and gas programs. He reviews and evaluates projects, directs and coordinates the onsite verifications, and provides oversight and direction for other engineers on the Itron evaluation team. The program encompasses both deemed/prescriptive and custom energy efficiency measures.

California Commercial End-Use Survey Study (2001-2006). This was a statewide survey of 2790 mostly commercial businesses across the state for the California Energy Commission. Onsite survey data for each site was converted into building simulations, which were calibrated to utility bills, interval metered data and short-term TOU logger data. Mr. Ramirez was the lead engineer for the project. He was principal designer of the survey form and a major contributor to the design of the DrCEUS building simulation system that was used to process, simulate, and calibrate the survey data. He also trained the onsite surveyors in completion of the survey, and trained and directed the building simulation team, as well as performing and troubleshooting simulations. He also analyzed, generated, and assembled final results, and wrote major portions of the final report. He continues to support for analysis of the CEUS data set.

School Energy Efficiency Program Evaluation (2005-2006). For this "information-only" program implemented in Northern California by D&R International, Mr. Ramirez provided technical reviews of benchmarking assessments, as well as engineering studies and their resultant recommendations for energy efficiency improvements.

DEER - Database for Energy Efficiency Resources Updates (2002-present). Mr. Ramirez has been involved in all of the Itron-led DEER efforts, providing engineering support for residential and commercial prototypes, residential/commercial/industrial technologies, end use load shapes, building simulation, and database design. He also performed and documented the basic research needed to create the manufactured home prototypes.

California Statewide Energy Efficiency Forecasting Model and Potential Studies (2006-Present). Mr. Ramirez is using his extensive knowledge of residential and commercial end-use technologies, end use load shapes and energy use to assist in estimating statewide energy efficiency potentials.

PG&E 1996 Commercial End Use Survey (1996-1998). Mr. Ramirez was the lead engineer for this survey of commercial businesses in the PG&E service area. Onsite survey data for each site was converted into building simulations, which were calibrated to utility bills and interval metered data using *SitePro*, an internal software tool developed by Itron. He assisted in designing the survey form and was a major contributor to the design of the *SitePro* building simulation system and the underlying engineering algorithms that were used to process, simulate, and calibrate the survey data. He directed the building simulation team, as well as performing and troubleshooting simulations.

Xcel Energy Boiler Efficiency Rebate Study (2005). Mr. Ramirez provided engineering support for Xcel Energy's high-efficiency commercial/industrial boiler program. He created the survey form, provided training to surveyors, and assisted with analysis of the survey data.

PG&E Residential New Construction Baseline Study (2003-2004). Mr. Ramirez designed the survey form, coordinated field survey work including duct blaster testing, and performed analysis for a multi-year residential onsite survey of newly constructed homes across California. He also assisted in the creation of a tool that translated the survey data from an Access database into MICROPAS files, which were batch run and used to assess compliance of the homes.

California Emerging Renewables Program Impact Evaluation (2000-2002). Mr. Ramirez conducted on-site field visits and spot-check measurements to verify installation and operation of PV systems in residential and commercial applications across Southern California.

SCE Commercial Energy Efficiency Incentive Program Evaluations (1997). Mr. Ramirez provided survey form design, engineering review, onsite survey support, and building simulation support for this program. This study focused on both gross and net energy and demand impacts at the whole-building and end-use levels. Data were collected via on-site commercial audits, decision-maker surveys, and end-use metering. Engineering estimates of savings related to energy efficiency measure installations were developed and used in a statistically adjusted engineering (SAE) analysis, and an efficiency choice analysis was used to estimate net load impacts.

SDG&E Nonresidential New Construction Program Evaluations (1995, 1996). Mr. Ramirez provided survey form design, engineering review, onsite survey support, and building simulation support for the 1995 and 1996 program years. These two projects involved on-site data collection for about 400 participants and 150 nonparticipants. Engineering simulations were performed for each site to estimate first-year gross realized energy and demand impacts of the measures installed under the program. These estimates were refined through the application of statistical realization rate analysis and efficiency choice modeling.

Northeast Utilities Residential Lighting Program Evaluation (1999-2000). Mr. Ramirez analyzed lighting logger data from 284 loggers for 222 customers in support of the evaluation study performed by Opinion Dynamics. Retrofitted CFLs and lighting fixtures were logged to determine actual hours of use for individual fixtures and lamp types. These results were compared to hours used by NU for their savings estimates.

Selected Papers and Publications

- "Evaluation Report for the Nonresidential New Construction, Custom, and Prescriptive Programs." With J. Holmes and Shel Feldman Management Consulting. For the WE Energies 55 MW Energy Efficiency Procurement Plan. 2007
- "California Commercial End-Use Survey." With F. Sebold and T. Mayer. Prepared for the California Energy Commission, CEC-400-2006-005. March 2006.
<http://www.energy.ca.gov/ceus/index.html>
- "2004-2005 Database for Energy Efficiency Resource (DEER) Update Study." With G. Cullen, U. Mengelberg, T. Mayer, and B. Souza. Prepared for Southern California Edison. October 2005.

- "A Building Simulation Palooza: The California CEUS Project and DrCEUS." International Building Performance Simulation Association (IBPSA) Conference, Montreal, Canada. August 2005.
- "Residential New Construction Baseline Study of Building Characteristics - Homes Built After 2001 Codes." With R. Harcharik and A. Fields. Prepared for Pacific Gas & Electric. August 2004.
- "DSM Potentials Support for CIP Filing and IRP Process." With F. Sebold, G. Cullen, U. Mengelberg, B. Souza, R. Harcharik, and J. Shelton, Prepared for Xcel Energy. March 2003.
- "Residential New Construction Study." With A. Fields, R. Weber, P. Vu, and H. Micelli. Prepared for Pacific Gas & Electric. July 2001.
- "California Energy Commission Emerging Renewables Buydown Program, Photovoltaic, and Wind Site Monitoring Results, Phase II Report." With K. Scheuermann, D. Boleyn, and P. Lilly. Prepared for California Energy Commission. June 2001.
- "California Low Income Energy Efficiency Program Statewide Policy and Procedures Manual." With F. Sebold. San Diego Gas & Electric. December 2001.
- "Low-Rise Multifamily Building New Construction Characteristics Study." With A. Fields. Prepared for the California Energy Commission, Report P400-00-012. July 2000.
- "California Energy Commission Emerging Renewables Buydown Program On-Site Verification Phase One." With D. Boleyn and P. Lilly. Prepared for California Energy Commission. July 1999.
- "1997 Commercial Energy Efficiency Incentive Program Evaluation (Study No. 567)." With F. Sebold, B. Gettig, and T. Mayer. Prepared for Southern California Edison. March 1999.
- "PG&E 1996 Commercial End Use Survey Load Shapes and EUIs Final Report." With I. Rohmund, K. Miller, and C. Fordham. For Pacific Gas and Electric Company. March 1998.
- "1995 and 1996 Non-Residential New Construction Program Load Impact Evaluations." With F. Sebold, A. Fields, and T. Mayer. For San Diego Gas & Electric. March 1997 and February 1998.
- "Electrotechnology Analysis Residential and Commercial Sectors." With J. S. McMenam, D. Nore, F. Monforte, and C. Fordham. For Northern States Power. October 15, 1996.
- "SMUD Commercial Load Shapes and EUIs Final Report." With I. Rohmund and L. Werner. For Sacramento Municipal Utilities District. September 1996.
- "PG&E Commercial Survey Load Shapes and EUIs Final Report." With I. Rohmund, P. Ham-Su, L. Werner, and C. Fordham. For Pacific Gas and Electric Company. April 1996.
- "COMTECH and COOLAD: Commercial Building HVAC Technology Screening Tools." With I. Rohmund and S. Criswell. Paper presented at the International Conference on Sustainable Thermal Energy Storage. August 1996.
- "Georgia Power Company Commercial and Load Shape EUIs Final Report." With J. S. McMenam, I. Rohmund, A. Hensleit, and L. Werner. For Southern Company Services. January 1996.
- "IPC Commercial and Small Industrial Data Development Final Report." With J. S. McMenam, I. Rohmund, K. Miller, C. Fordham, and L. Werner. For Interstate Power Company. November 1995.

- "HECO 1994 Commercial Energy-Use Survey Final Report." With I. Rohmund, C. Fordham and A. Hensleit. Prepared for Hawaiian Electric Company. August 1995.
- "Northern States Power 1993 Market Assessment Study: DSM Measures Database Final Report." With I. Rohmund, C. Fordham, F. Monforte, P. Ham-Su, and L. Werner. August 1995.
- "Titan/Centaur Full-Scale Test Results." With Emmet Christensen as editor for General Dynamics Space Systems Division. January 1992.

Thomas A. Mayer
Principal Consultant
Itron, Inc.

Education

- B.A., Economics, emphasis in Applied Econometrics, University of California, San Diego, 1987
- Advanced Applications in Load Research Seminar, 2002

Employment History

- Senior Consultant, Itron, Inc., June 1987-Present
- Management, Far-West Services, 1973-1983

Selected Expertise

- Sampling Expertise
- Analysis of Ex-Post Net Program Effects
- Building Energy Simulation Modeling
- Statistical Analysis Ability
- Residential Energy Usage
- Residential Billing Analysis
- Non-Residential Building Energy Usage
- Analysis of Metering Data

Selected Project Experience

California Commercial End-use Survey, CEC (2001- 2006). Since 2001 Mr. Mayer has been directly involved in the development of "The DrCEUS System". This system was designed to automate the running of commercial building simulations utilizing the eQuest/DOE 2.2 simulation software developed by J.J. Hirsh and Associates. As a part of this effort, it was necessary for Mr. Mayer to understand the inner workings of eQuest and how eQuest generates the BDL inputs used by DOE 2.2. With this knowledge, Mr. Mayer was able to create software that could translate the information collected in the 2,790 on-site surveys into information machine readable by eQuest. The system would generate these inputs; run eQuest that in turn ran the building simulation with DOE 2.2, the system would then retrieve the data from eQuest and store these data into an MS Access database for further use. Included in the system was a second piece of code designed to aggregate weighted results in the user specified segments by Building Type, Region, and Utility service territory as well as other user specified categories.

Mr. Mayer has acquired an intimate understanding of eQuest and its interaction with DOE 2.2. As part of this work Mr. Mayer has also developed a deep understanding of all systems used in commercial buildings, including the building envelop, HVAC systems, lighting, refrigeration, and miscellaneous equipment. The DrCEUS system that Mr. Mayer designed utilizes on-site survey data and other default information to build the input files used by EQuest/DOE 2.2 to run building simulations. Once the building simulations are run, DrCEUS retrieves the results and stores them in a database for use in other analyses. Results stored by DrCEUS include 8,760 load shapes, saturations, intensities and EUIs.

California Statewide Energy Efficiency Potential Summary Study, PG&E, (2006). A statewide study of the potential for new energy efficiency resources. Mr. Mayer assisted in the development of the study results along with helping to automate and run the ASSET model. As part of this project, Mr. Mayer was involved in the development of data inputs to the Asset model utilizing his knowledge of the CA CEUS database developed for the CEC ending in 2006. These data provided the basis for the development of technology densities, base shares, and applicability as well as time-of use load profiles for the billing component of the estimation process. Further, Mr. Mayer was instrumental in adding automation to the estimation process. Utilizing his programming skills, he was able to setup systems that would automatically simulate runs using the correct inputs eliminating the need for the analyst to setup the data prior to running the simulation in Asset. This proved invaluable to getting the work done for this project. Mr. Mayer was also directly involved in the running of results and the calibration of the models.

"Conditional Demand Study of Residential Unit Energy Consumption Using Miracles V-IX. Final Report on Phase I and II." Prepared for San Diego Gas & Electric Company (December 1990). As part of this study Mr. Mayer was directly involved in all aspects of estimating the CDA models and calculating the UECs from the Miracle database. Mr. Mayer's responsibilities included all aspects of performing a conditional demand analysis. These duties included the day-to-day management of the project along with most of the details to performing this type of analysis. These duties included the following:

- Developing the data requests for survey, weather and billing data
- Performing all necessary tasks for combining the data for estimation
- Development of all variables needed for estimation
- Development of the code for filling missing values as needed
- Development and analysis of the CDA models; and
- Developed the code for calculating the UECs

Mr. Mayer also assisted in writing the report for the project with the assistance of Dr Fred Sebold.

Selected Accomplishments

- Computer modeling and analysis for the "SDG&E Demand-Side Management Technology Assessment Study, Phase III Final Report." Prepared for San Diego Gas & Electric Company (May 1991).
- Computer modeling and analysis of New England Electric's demand-side management programs in the residential, commercial, and industrial sectors. Reports were generated in 1993 and 1994.
- Conditional demand analysis of the residential sector for the Empire State Electric Energy Research Corporation (Eseerco). Included the combining of surveys from seven utilities in New York State and development of a CDA model to estimate end-use energy usage.
- Assisted in the estimation of a conditional demand model for Northern States Power (1995). This included the estimation of two types of survey data. A mail survey was performed for a representative sample of the population. This information was combined with a smaller sample of on-site surveys of residential customers in an effort to enhance the CDA estimation process.
- Implemented the ASSET model for New England Electric using data generated from the 1994 analysis as well as information from NEES' 1995 commercial and industrial on-site surveys and their most recent residential appliance saturation survey.
- Performed a conditional demand analysis of residential customers in the IPC service territory. This was a tailored collaboration project with EPRI. Non-weather sensitive end-use metered data for two different regions of the U.S. were incorporated with mail survey data from the IPC service area in an effort to evaluate the effectiveness of such data on the estimation process.
- Completed an analysis of San Diego Gas & Electric commercial new construction incentive programs for 1995. This study was submitted to the CPUC on March 1, 1997 for their review.
- Completed an analysis of Southern California Gas Company 1995 new construction incentive programs. This study was submitted to the CPUC on March 1, 1997 for their review.
- Completed an analysis of San Diego Gas & Electric commercial new construction incentive programs for 1996. This study was submitted to the CPUC on March 1, 1998 for their review.
- Completed an evaluation of the small business sector for SDG&E. This project used many sources of data including phone and mail surveys and billing data, which were all used to describe and understand the small business segment of SDG&E's service territory. Completed in January of 2000.
- California Statewide Energy Efficiency Potential Summary Study, PG&E, 2006 – a statewide study of the potential for new energy efficiency resources. Mr. Mayer assisted in the development of the study results along with helping to automate and run the ASSET model.

Selected Papers and Publications

- "2005 California Commercial On-Site Survey: What Did We Learn?" With F. Sebold, Robert Ramirez, and Mark Ciminelli. Prepared for the International Energy Program Evaluation Conference. August 2005.
- "2003 DrCEUS: Commercial Survey Analysis Tool for the 21st Century." With F. Sebold, Alan Fields, Robert Ramirez, Brad Souza, and Mark Ciminelli. Prepared for Association of Energy Services Professionals. December 2003.
- "2003 DrCEUS: Energy and Demand Usage from Commercial On-site Survey Data." With F. Sebold, Alan Fields, Robert Ramirez, Brad Souza, and Mark Ciminelli. Prepared for the California Energy Commission. June 2003.
- "2002 Energy Initiative Program Impact Evaluation." With F. Sebold and J. Shelton. Prepared for National Grid USA Service Company. June 2003.

- "2001 Energy Initiative Program Impact Evaluation." With F. Sebold. Prepared for National Grid USA Service Company. June 2002.
- "1999 Energy Initiative Program Impact Evaluation." With F. Sebold and M. Ozog. Prepared for National Grid USA Service Company. July 2000.
- "Commercial Floor Stock Forecast." With A. Fields. Prepared for San Diego Gas & Electric Company. May 2000.
- "SDG&E Small Business Sector Assessment." With A. Fields. Prepared for San Diego Gas & Electric Company. January 2000.
- "LTBA Short-Range Database Update Guide." With F. Sebold. Prepared for the California Energy Commission. September 1989.
- "An Assessment of the Economic Impacts of the California Beverage Container Recycling and Litter Reduction Act." With F. Sebold. Prepared for the State of California, Department of Conservation, Division of Recycling. March 1989.
- "An Assessment of the Economic Impacts of the California Beverage Container Recycling and Litter Reduction Act." With F. Sebold, M. Thayer, and M. Naughton. Prepared for the State of California, Department of Conservation, Division of Recycling. September 1988.
- "An Evaluation of Alternatives Relating to the Calculation of Processing Fees." With F. Sebold, M. Thayer, and M. Naughton. Prepared for the State of California, Department of Conservation, Division of Recycling. November 1987.

EXHIBIT B

BUDGET DETAIL AND PAYMENT PROVISIONS

1. Budget and Timeline

A. This effort will be conducted on a time-and-materials basis. The bulk of the SAS work will likely be done by Priya Sathe with direction and support from Bob Ramirez and Tom Mayer. Budget (not to exceed \$4,940.00), and time estimates are as follows:

- 1.) Total Budget: \$4,940
- 2.) Hours billed will be based on the following:
- 3.) Bob Ramirez: 13 hours @\$190/hr = \$2,470.00
- 4.) Tom Mayer: 13 hours @\$190/hr = \$2,470.00

2. Deliverables

- 1.) The SAS code and data sets will be used to generate all reports
- 2.) All reports will be presented in Excel Spreadsheet Format
- 3.) All Reports generated during the period of this agreement, will be due by December 31, 2009, agreement end date.

3. Invoicing and Payment

A. For services satisfactorily rendered, and upon receipt and approval of the invoices, the State agrees to compensate the Contractors for actual expenditures incurred in accordance with the rates specified below:

- 1.) Rate: \$190.00
- 2.) Hours: 26
- 3.) Total: \$4,940.00

B. Invoices shall include the Agreement Number and shall be submitted in triplicate not more frequently than monthly in arrears:

Emma Plasencia
Air Resources Board
Research Division
P.O. Box 2815
Sacramento, CA 95812

4. Budget Contingency Clause

- A. It is mutually agreed that if the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no further force and effect. In this event, the State shall have no liability to pay any funds whatsoever to Contractor or to furnish any other considerations under this Agreement and Contractor shall not be obligated to perform any provisions of this Agreement.
- B. If funding for any fiscal year is reduced or deleted by the Budget Act for purposes of this program, the State shall have the option to either cancel this Agreement with no liability occurring to the State, or offer an agreement amendment to Contractor to reflect the reduced amount.

5. Prompt Payment Clause

Payment will be made in accordance with, and within the time specified in, Government Code Chapter 4.5, commencing with Section 927.