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MEMORANDUM

Date: December 6, 2011

To: Mary O'Drain, Pacific Gas and Electric

Re: LIEE Pilot Program Impact Evaluation – Methods and Results

Introduction and Summary of Findings

This memo presents the impact evaluation results conducted as part of the evaluation of the PG&E Low Income Energy Efficiency Clothes Washer and Microwave Pilot program. Evergreen Economics and ECONorthwest conducted the impact evaluation.

LIEE is the ratepayer-funded Low Income Energy Efficiency Program provided by the California Investor Owned Utilities to their income-qualified customers. The LIEE Program utilizes direct-install, "whole house" approach to provide home weatherization, energy-efficient appliances and energy education services at no cost to income-qualified PG&E customers. To qualify for the LIEE program, the total customer household income must be equal or less than 200 percent of the Federal Poverty Guidelines, with income adjustments for family size.

Decision (D.) 08-11-031 authorized PG&E's 2009-2011 LIEE program, including an energy efficient clothes washer pilot and a microwave pilot. Expanded Pilot Implementation Plans for PG&E's energy efficient clothes washer pilot and microwave pilot were filed in PG&E's Advice Letter 3026=B/3479-E on July 23, 2009 and authorized by the Commission. The commission required PG&E to perform impact evaluations of these pilots, to assess their energy savings.

The two pilot programs are as follows:

1. **Microwave Pilot.** This program provided microwave ovens to low income household that did not already have a microwave. This program was offered to achieve potential energy savings by enabling households to use the microwave for smaller cooking tasks (e.g., cooking small portions, reheating previously prepared meals) rather than using the less efficient conventional oven. PG&E's goal for this pilot was to install up to 3,750 microwave oven units throughout PG&E's service territory in program years 2009-2011. Under this pilot program, a microwave was provided to customers to displace

either gas or electric cooking, under the assumptions that the electric microwave in use for a short time to cook small portions or reheat meals would use less energy than an oven or stove on for a longer time.

2. **Clothes Washer Pilot.** This program provided a new, high efficiency clothes washer for low income households of five or more individuals that had an existing, standard efficiency clothes washer that was manufactured in 2001 or earlier. The goal of this pilot was to replace up 1,000 standard clothes washers with new high efficiency clothes washers during the 2009-2011 LIEE program cycle. The old clothes washer was removed and recycled.

To estimate energy savings for these two measures, participant tracking data were combined with weather data and monthly energy consumption data in two separate billing regression models (gas and electric) to estimate measure-level impacts. The final billing regression impact results are presented in Table 1 and Table 2, with the estimated savings from the billing model and the *ex ante* savings values shown for comparison.

Note that the *ex ante* savings values for clothes washers varied based on the type of clothes dryer and water heater (either gas or electric) present in the household. Since this information was not available in the participant tracking data, we were not able to develop a similar range of impact estimates based on dryer and water heater fuel type. The estimated savings for clothes washers from the billing model therefore represents an average value across all types of clothes dryers, while the *ex ante* values are presented as a range. For the electricity impact estimates, the savings values from the billing regression are within the range of the *ex ante* savings values. For gas savings, the clothes washer estimate of 29.72 therms is slightly higher than the upper end of the *ex ante* savings range.

For microwaves, the annual savings estimate from the billing regression model is 201.25 kWh, which is higher than the *ex ante* value of 162.43. In the gas model, the impact estimate for microwaves is substantially lower than the *ex ante* value (23.57 therms compared to the *ex ante* value of 41.26).

Table 1: Final Electric Impact Estimates

Measure	2009 Participants	2009 Electric Savings per Unit (kWh)		2009 Total Electric Savings (kWh)	
		Ex Ante	**Estimated**	***Ex Ante***	**Estimated**
Clothes Washer[1]	841	0 -787.87	450.30	0 - 662,599	378,702
Microwave	1,611	162.43	201.25	261,675	324,214
Total	2,432	-	-	261,675 - 924,274	702,916

Table 2: Final Gas Impact Estimates

Measure	2009 Participants	2009 Gas Savings per Unit (therms)		2009 Total Gas Savings (therms)	
		Ex Ante	**Estimated**	***Ex Ante***	**Estimated**
Clothes Washer	841	0 - 26.89	29.73	0 - 22,614	25,006
Microwave	1,549	41.26	23.57	63,912	36,510
Total	2,376	-	-	63,912 - 86,526	61,516

Additional detail on the billing regression methods and results is presented below.

Impact Analysis Methods

Billing Regression Model

For the billing regression model, we developed a fixed-effects panel data model to estimate changes in household electricity and natural gas consumption between the baseline ("pre") and post-measure-installation periods. The billing regression model relates monthly natural gas consumption or electricity usage by household by month to:

1. Outside temperatures measured in heating degree days and cooling degree days
2. An indicator variable for the months in which the energy efficiency measure was installed

[1] E*x ante* savings for clothes washers are given in terms of the fuel type of both the water heater and the dryer, and so are presented here as a range.

Interactions between the independent variables were also examined. Along with these other variables, alternative functional forms for the model were also examined, including the natural log transformation of the dependent variable. However, none of these alternative specifications offered an improvement over the final model.

The final model was estimated using the linear values of the dependent and independent variables.[2] The fixed-effects panel data model was specified as follows:

$$Consumption_{it} = \beta_0 + \beta_1 HDD_{it} + \beta_2 CDD_{it} + \beta_3 Month + \beta_3 Measure_{it} + \varepsilon_{it}$$

$$\begin{aligned}
&Where: \\
Consumption &= Monthly\ consumption\ in\ time\ t\ (therms\ or\ kWh) \\
HDD &= Aggregate\ monthly\ heating\ degrees\ days\ (based\ on\ 65\ degree\ ambient) \\
CDD &= Aggregate\ monthly\ cooling\ degrees\ days\ (based\ on\ 65\ degree\ ambient) \\
Month &= Monthly\ time\ period\ (t=1,2,\ldots,T) \\
Measure &= Indicator\ variable\ for\ post\text{-}period\ measure\ installation\ period \\
i &= Index\ for\ household\ (i=1,\ldots,n) \\
t &= Index\ for\ monthly\ time\ period\ (t=1,2,\ldots,T) \\
[\beta_0,\ldots,\beta_3,] &= Coefficients\ to\ be\ estimated \\
[\varepsilon] &= Error\ term
\end{aligned}$$

Data

Monthly electric and gas billing data and information related to the types and timing of measures installed were provided by PG&E, as was information on the characteristics of participant homes.[3]

Daily weather data provided by PG&E for the Low Income Energy Efficiency impact evaluation were used in the model. Heating degree days (HDD) and cooling degree days (CDD) were computed for each day based on an ambient temperature of 65 degrees Fahrenheit. Daily measures of HDD and CDD were aggregated by billing period (which were approximately

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2 As opposed to the alternative of first transforming the dependent variable and/or the independent variables by the natural log function.

3 Including: owner/renter, income, number of participants. We attempted to add these variables into the billing regression model, but ultimately their inclusion did not improve the results over the final model specification presented in this memo.

equivalent to months) and divided by the number of days in the billing period to obtain an average per day for each month.

Variables included in the billing regression model are defined in Table 3.

Table 3: Description of Electric Model Variables

Variable	Description
Consumption	Normalized monthly kWh usage ((kWh / number of days) * 30.4)
HDD	Average daily heating degree days (HDD) per month: $If(AvgDailyTemp_i < 65) \Rightarrow hdd_i = 65 - AvgDailyTemp_i$ $If(AvgDailyTemp_i >= 65) \Rightarrow hdd_i = 0$ $HDD_t = \frac{1}{n}\sum_{i=1}^{n} hdd_i$
CDD	Average daily cooling degree days (CDD) per month: $If(AvgDailyTemp_i > 65) \Rightarrow cdd_i = AvgDailyTemp_i - 65$ $If(AvgDailyTemp_i <= 65) \Rightarrow cdd_i = 0$ $CDD_t = \frac{1}{n}\sum_{i=1}^{n} cdd_i$
Month	Monthly time period (1=January 2007, 2=February 2007, …, 13=January 2008, …)
Microwave	Indicator variable for months in which a microwave replacing an electric stove was installed (equals 1 for all months following installation, 0 for all months prior to installation).
Clothes Washer	Indicator variable for months in which a clothes washer was installed (equals 1 for all months following installation, 0 for all months prior to installation).

Source: Analysis by Evergreen Economics of data provided by PG&E

Table 4: Description of Gas Model Variables

Variable	Description
Consumption	Normalized monthly therm usage ((therm/ number of days) * 30.4)
HDD	Average daily heating degree days (HDD) per month: $If(AvgDailyTemp_i < 65) \Rightarrow hdd_i = 65 - AvgDailyTemp_i$ $If(AvgDailyTemp_i >= 65) \Rightarrow hdd_i = 0$ $HDD_t = \frac{1}{n}\sum_{i=1}^{n} hdd_i$
CDD	Average daily cooling degree days (CDD) per month: $If(AvgDailyTemp_i > 65) \Rightarrow cdd_i = AvgDailyTemp_i - 65$ $If(AvgDailyTemp_i <= 65) \Rightarrow cdd_i = 0$ $CDD_t = \frac{1}{n}\sum_{i=1}^{n} cdd_i$
Month	Monthly time period (1=January 2007, 2=February 2007, …, 13=January 2008, …)
Microwave	Indicator variable for months in which a microwave replacing a gas stove was installed (equals 1 for all months following installation, 0 for all months prior to installation).
Clothes Washer	Indicator variable for months in which a clothes washer was installed (equals 1 for all months following installation, 0 for all months prior to installation).

Source: Analysis by Evergreen Economics of data provided by PG&E

Data screening was performed on the data at several stages to remove customers with insufficient information to support a billing regression model. During the screening process, customers were removed who (a) had missing data in key fields, (b) were under a master meter, (c) had fewer than 12 months of pre-installation billing data or fewer than 9 months of post-installation data, or (d) had abnormally high or low energy usage in a single month.[4] Table 5 shows the number of participants screened for the various reasons

[4] For the electric billing model, customers who used less than 50kWh or more than 3,000 kWh in any month were screened out. For the gas billing model, only customers who used more than 400 therms in any month were screened out.

Table 5: Customer Attrition due to Screening

Screen Applied	Total Gas Participants	Total Electric Participants
Raw sample (no screens applied)	3967	
Participants with missing installation dates were removed	3960	
Master-metered participants were removed	3838	
Participants without billing data were removed	3231	3342
Participants without sufficient billing data were removed	2903	2979
Participants with irregular usage profiles were removed	2326	3315
Participants either without sufficient billing data or with irregular usage profiles were removed	2117	2959

Billing Model Estimation Results

The estimation results from the billing regression model are shown in Table 6 for the electric model and Table 7 for the gas model, with additional detail for both the electric and gas models provided in Appendix A. All of the estimated coefficients are of the expected sign (either negative or positive) and all variables of interest are statistically significant at the 5 percent level. Detailed regression output for alternative model specifications is provided in Appendix B.

The coefficients of interest with respect to the question of energy savings associated with the efficiency program are β_3 and β_4 (the coefficients on Microwave and Clothes Washer). Both coefficients are negative and significant for both the electric and gas model, indicating that, after accounting for changes in HDD and CDD and holding all else constant, participants experienced an estimated base decrease in energy usage after installation of the energy efficiency measure.[5]

[5] Note that the model specification assumes that all differences in energy use that are not controlled for by the weather variables or the monthly time trends are the result of the measures installed. If there are additional influences that are decreasing energy use between the pre and post periods that are not accounted for the in the model, then the impact estimates presented here will overstate the true energy savings.

Table 6: Regression Results from Electric Billing Model[6]

Variable	Coefficient	St. Error	t-statistic	p-value
(β_1) HDD	0.4900	0.028	17.346	0.000
(β_2) CDD	0.9330	0.016	59.823	0.000
(β_3) Microwave	-16.7710	7.182	-2.335	0.000
(β_4) Clothes Washer	-37.5250	6.317	-5.940	0.000

Source: Analysis by Evergreen Economics of data provided by PG&E

Table 7: Regression Results from Gas Billing Model

Variable	Coefficient	St. Error	t-statistic	p-value
(β_1) HDD	0.0680	0.002	29.216	0.000
(β_2) CDD	-0.0020	0.001	-1.347	0.178
(β_3) Microwave	-2.0390	0.560	-3.638	0.000
(β_4) Clothes Washer	-1.9920	0.487	-4.094	0.000

Source: Analysis by Evergreen Economics of data provided by PG&E

The overall household impact estimates based on these results are shown in Table 8. The billing regression results are generally consistent with the corresponding *ex ante* savings values, as discussed below.

Table 8: Billing Regression Impact Estimates and 95% Confidence Interval

Measure	Electric Model Impact Estimates (kWh)			Gas Model Impact Estimates (therms)		
	Annual Savings per Unit	95 % Conf. Interval LOWER BOUND	95 % Conf. Interval UPPER BOUND	Annual Savings per Unit	95 % Conf. Interval LOWER BOUND	95 % Conf. Interval UPPER BOUND
Clothes Washer	450.30	301.73	598.87	23.90	11.29	37.66
Microwave	201.25	32.34	370.18	24.47	12.46	35.35

Impact Estimates

The final billing regression impact results are presented in Table 9 and Table 10, with the estimated savings from the billing model and the *ex ante* savings values shown for comparison.

[6] Estimates for the monthly time-trend variable are only provided in the appendices for both the gas and electric models.

Note that the *ex ante* savings values for clothes washers varied based on the type of clothes dryer and water heater (either gas or electric) present in the household. Since this information was not available in the participant tracking data, we were not able to develop a similar range of impact estimates based on dryer and water heater fuel type. The estimated savings for clothes washers from the billing model therefore represents an average value across all types of clothes dryers and is generally consistent with the range of *ex ante* savings values. For the electricity impact estimates, the savings values from the billing regression are within the range of the *ex ante* savings values. For gas savings, the clothes washer estimate of 29.72 therms is slightly higher than the upper end of the *ex ante* savings range.

For microwaves, the annual savings estimate from the billing regression model is 201.25 kWh, which is higher than the *ex ante* value of 162.43. In the gas model, the impact estimate for microwaves is substantially lower than the *ex ante* value (23.57 therms compared to the *ex ante* value of 41.26).

Note that the *ex ante* impacts for microwaves that are installed in homes with an existing gas stove included an additional *increase* of 138.7 kWh in the electric usage to reflect the switch from cooking with the gas oven to cooking with the electric microwave. We attempted to estimate a similar adjustment factor in the billing regression to account for the switch from gas to electric cooking. However, we were unable to come up with a reasonable estimate with our current model and sample. We recommend that the original *ex ante* electric adjustment factor of 138.7 kWh be retained and used to calculate impacts for this measure.

Table 9: Final Electric Impact Estimates

Measure	**2009 Participants**	**2009 Electric Savings per Unit (kWh)**		**2009 Total Electric Savings (kWh)**	
		Ex Ante	**Estimated**	***Ex Ante***	**Estimated**
Clothes Washer	841	0 -787.87	450.30	0 - 662,599	378,702
Microwave	1,611	162.43	201.25	261,675	324,214
Total	2,432	-	-	261,675 - 924,274	702,916

Table 10: Final Gas Impact Estimates

Measure	**2009 Participants**	**2009 Gas Savings per Unit (therms)**		**2009 Total Gas Savings (therms)**	
		Ex Ante	**Estimated**	***Ex Ante***	**Estimated**
Clothes Washer	841	0 - 26.89	29.73	0 - 22,614	25,006
Microwave	1,549	41.26	23.57	63,912	36,510
Total	2,376	-	-	63,912 - 86,526	61,516

Appendix A: Detailed Final Billing Regression Model Results

The following tables provide additional detail on the final billing models used for the LIEE Pilot Impact evaluation. The first set of tables "PG&E LIEE Pilots – Final Electric Model: E2 – Both" shows detailed results for the final electric billing model, and the second set of tables "PG&E LIEE Pilots - Final Gas Model: G2 – Both" shows detailed results for the final gas billing model.

PG&E LIEE Pilots - Final Electric Model: E2 - Both

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.432[a]	.187	.186	218.68688

a. Predictors: (Constant), m_d_43, m_d_13, m_d_38, m_d_23, m_d_26, m_d_35, m_d_37, m_d_29, m_d_41, m_d_25, m_d_14, m_d_33, m_d_20, m_d_32, m_d_21, m_d_17, m_d_18, m_d_16, m_d_27, m_d_15, m_d_31, m_d_34, m_d_28, m_d_19, m_d_39, m_d_30, washer, m_d_40, m_d_36, m_d_24, microwave_e, m_d_42, devcdd, devhdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.095E8	34	14985930.775	313.356	.000[a]
	Residual	2.219E9	46407	47823.952		
	Total	2.729E9	46441			

a. Predictors: (Constant), m_d_43, m_d_13, m_d_38, m_d_23, m_d_26, m_d_35, m_d_37, m_d_29, m_d_41, m_d_25, m_d_14, m_d_33, m_d_20, m_d_32, m_d_21, m_d_17, m_d_18, m_d_16, m_d_27, m_d_15, m_d_31, m_d_34, m_d_28, m_d_19, m_d_39, m_d_30, washer, m_d_40, m_d_36, m_d_24, microwave_e, m_d_42, devcdd, devhdd
b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	60.127	6.900		8.714	.000	46.602	73.652
	microwave_e	-16.771	7.182	-.013	-2.335	.020	-30.848	-2.695
	washer	-37.525	6.317	-.031	-5.940	.000	-49.906	-25.144
	devcdd	.933	.016	.558	59.823	.000	.903	.964
	devhdd	.490	.028	.377	17.346	.000	.434	.545
	m_d_13	-90.905	16.119	-.056	-5.639	.000	-122.499	-59.311

m_d_14	-52.518	12.104	-.038	-4.339	.000	-76.243	-28.793
m_d_15	-68.270	9.846	-.050	-6.933	.000	-87.569	-48.971
m_d_16	-98.060	8.813	-.072	-11.127	.000	-115.333	-80.787
m_d_17	-88.201	7.871	-.065	-11.206	.000	-103.628	-72.773
m_d_18	-131.526	8.268	-.097	-15.907	.000	-147.731	-115.320
m_d_19	-38.488	8.680	-.029	-4.434	.000	-55.501	-21.475
m_d_20	-50.919	8.897	-.037	-5.723	.000	-68.357	-33.480
m_d_21	22.820	8.274	.017	2.758	.006	6.603	39.037
m_d_23	-65.035	9.334	-.045	-6.967	.000	-83.330	-46.740
m_d_24	-152.003	16.717	-.115	-9.093	.000	-184.768	-119.238
m_d_25	-39.574	14.057	-.028	-2.815	.005	-67.126	-12.022
m_d_26	-53.645	11.763	-.037	-4.560	.000	-76.701	-30.588
m_d_27	-53.632	10.189	-.039	-5.264	.000	-73.603	-33.661
m_d_28	-91.277	8.733	-.068	-10.453	.000	-108.392	-74.161
m_d_29	-84.004	8.023	-.060	-10.470	.000	-99.730	-68.278
m_d_30	-51.844	7.895	-.039	-6.566	.000	-67.319	-36.368
m_d_31	-18.917	8.663	-.014	-2.184	.029	-35.897	-1.938
m_d_32	5.904	8.621	.004	.685	.493	-10.993	22.801
m_d_33	-8.534	8.536	-.006	-1.000	.317	-25.265	8.196
m_d_34	50.933	7.883	.038	6.461	.000	35.482	66.383
m_d_35	-75.547	10.472	-.053	-7.214	.000	-96.073	-55.021
m_d_36	-83.932	15.600	-.063	-5.380	.000	-114.507	-53.357
m_d_37	-33.786	14.234	-.024	-2.374	.018	-61.685	-5.887
m_d_38	-7.582	10.941	-.005	-.693	.488	-29.026	13.861
m_d_39	-46.619	10.304	-.035	-4.524	.000	-66.815	-26.423
m_d_40	-64.914	9.704	-.049	-6.689	.000	-83.935	-45.894
m_d_41	-51.419	8.584	-.037	-5.990	.000	-68.243	-34.595
m_d_42	-118.346	8.808	-.090	-13.436	.000	-135.611	-101.082
m_d_43	-2.281	9.665	-.002	-.236	.813	-21.225	16.663

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Gas Model: G2 - Both

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.682[a]	.465	.464	18.84778

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_26, m_d_38, m_d_35, m_d_37, m_d_29, m_d_25, m_d_14, m_d_33, m_d_17, m_d_20, m_d_18, m_d_27, m_d_21, m_d_41, m_d_16, m_d_15, m_d_19, m_d_28, m_d_34, m_d_32, m_d_31, m_d_30, m_d_39, washer, m_d_40, m_d_24, microwave_g, m_d_22, m_d_36, devcdd, devhdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17304538.599	35	494415.389	1391.783	.000[a]
	Residual	19940267.070	56132	355.239		
	Total	37244805.670	56167			

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_26, m_d_38, m_d_35, m_d_37, m_d_29, m_d_25, m_d_14, m_d_33, m_d_17, m_d_20, m_d_18, m_d_27, m_d_21, m_d_41, m_d_16, m_d_15, m_d_19, m_d_28, m_d_34, m_d_32, m_d_31, m_d_30, m_d_39, washer, m_d_40, m_d_24, microwave_g, m_d_22, m_d_36, devcdd, devhdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.494	.633		.781	.435	-.746	1.734
	microwave_g	-2.039	.560	-.014	-3.638	.000	-3.138	-.941
	washer	-1.992	.487	-.015	-4.094	.000	-2.946	-1.038
	devcdd	-.002	.001	-.009	-1.347	.178	-.004	.001
	devhdd	.068	.002	.491	29.216	.000	.064	.073
	m_d_12	-14.854	18.891	-.002	-.786	.432	-51.880	22.172

m_d_13	8.428	1.371	.048	6.149	.000	5.741	11.114
m_d_14	15.848	1.055	.107	15.024	.000	13.781	17.916
m_d_15	3.181	.873	.022	3.645	.000	1.471	4.892
m_d_16	-3.495	.781	-.024	-4.475	.000	-5.026	-1.964
m_d_17	-2.801	.681	-.019	-4.113	.000	-4.135	-1.466
m_d_18	-4.913	.667	-.034	-7.367	.000	-6.220	-3.606
m_d_19	-6.399	.677	-.044	-9.446	.000	-7.726	-5.071
m_d_20	-6.665	.686	-.046	-9.723	.000	-8.009	-5.322
m_d_21	-6.933	.666	-.048	-10.405	.000	-8.239	-5.627
m_d_22	-6.943	.677	-.049	-10.255	.000	-8.270	-5.616
m_d_23	-12.081	.835	-.078	-14.476	.000	-13.717	-10.445
m_d_24	-14.515	1.437	-.103	-10.100	.000	-17.331	-11.698
m_d_25	12.836	1.224	.087	10.489	.000	10.438	15.235
m_d_26	9.068	1.022	.060	8.876	.000	7.065	11.070
m_d_27	5.828	.898	.040	6.488	.000	4.068	7.589
m_d_28	-2.441	.770	-.017	-3.170	.002	-3.951	-.932
m_d_29	-.890	.675	-.006	-1.318	.187	-2.213	.433
m_d_30	-4.405	.658	-.031	-6.698	.000	-5.694	-3.116
m_d_31	-6.049	.671	-.042	-9.015	.000	-7.365	-4.734
m_d_32	-6.519	.668	-.046	-9.756	.000	-7.829	-5.209
m_d_33	-6.076	.674	-.041	-9.011	.000	-7.397	-4.754
m_d_34	-9.294	.706	-.065	-13.166	.000	-10.678	-7.910
m_d_35	-12.081	.923	-.081	-13.088	.000	-13.890	-10.272
m_d_36	-1.794	1.338	-.013	-1.341	.180	-4.415	.828
m_d_37	9.473	1.227	.064	7.717	.000	7.067	11.879
m_d_38	13.064	.951	.087	13.743	.000	11.201	14.927
m_d_39	4.718	.892	.033	5.292	.000	2.971	6.466
m_d_40	-.853	.823	-.006	-1.037	.300	-2.465	.759
m_d_41	-.901	.683	-.006	-1.319	.187	-2.240	.438
m_d_43	-4.534	.617	-.032	-7.354	.000	-5.743	-3.326

a. Dependent Variable: devncons

Appendix B: Detailed Alternative Electric Billing Regression Model Results

The following tables provide detail on the alternative electric billing models considered for the LIEE Pilot Impact evaluation that were examined but ultimately were not used.

PG&E LIEE Pilots - Final Electric Model: E1 - Both

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.396[a]	.157	.157	222.60481

a. Predictors: (Constant), devhdd, washer, microwave_e, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.278E8	4	1.069E8	2158.298	.000[a]
	Residual	2.301E9	46437	49552.901		
	Total	2.729E9	46441			

a. Predictors: (Constant), devhdd, washer, microwave_e, devcdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	8.132	1.077		7.548	.000	6.020	10.243
	microwave_e	-29.643	5.479	-.023	-5.410	.000	-40.383	-18.904
	washer	-47.890	5.226	-.039	-9.164	.000	-58.133	-37.648
	devcdd	.915	.010	.547	90.088	.000	.895	.934
	devhdd	.394	.008	.303	49.639	.000	.379	.410

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: E1 - Consumption

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.391[a]	.153	.152	220.44200

a. Predictors: (Constant), devhdd, washer, microwave_e, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.455E8	4	1.114E8	2291.841	.000[a]
	Residual	2.475E9	50928	48594.676		
	Total	2.920E9	50932			

a. Predictors: (Constant), devhdd, washer, microwave_e, devcdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	7.433	1.015		7.322	.000	5.444	9.423
	microwave_e	-27.621	5.357	-.021	-5.156	.000	-38.122	-17.121
	washer	-47.067	5.153	-.037	-9.134	.000	-57.167	-36.967
	devcdd	.905	.010	.541	93.193	.000	.886	.924
	devhdd	.393	.008	.306	52.395	.000	.379	.408

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: E1 - Pre/Post

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.099[a]	.010	.010	1499.53669

a. Predictors: (Constant), devhdd, washer, microwave_e, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.402E9	4	3.504E8	155.850	.000[a]
	Residual	1.405E11	62494	2248610.276		
	Total	1.419E11	62498			

a. Predictors: (Constant), devhdd, washer, microwave_e, devcdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.016	6.253		.003	.998	-12.240	12.271
	microwave_e	5.298	31.301	.001	.169	.866	-56.052	66.648
	washer	-39.333	31.060	-.005	-1.266	.205	-100.211	21.545
	devcdd	1.403	.058	.138	24.318	.000	1.290	1.516
	devhdd	.629	.046	.078	13.685	.000	.539	.719

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: E1 - No Screen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.100[a]	.010	.010	1448.85545

a. Predictors: (Constant), devhdd, washer, microwave_e, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.479E9	4	3.699E8	176.190	.000[a]
	Residual	1.458E11	69449	2099182.114		
	Total	1.473E11	69453			

a. Predictors: (Constant), devhdd, washer, microwave_e, devcdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.786	5.710		-.313	.754	-12.977	9.405
	microwave_e	10.764	29.783	.001	.361	.718	-47.610	69.138
	washer	-34.976	29.798	-.004	-1.174	.240	-93.380	23.427
	devcdd	1.398	.054	.140	26.104	.000	1.293	1.503
	devhdd	.660	.042	.084	15.650	.000	.577	.743

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: E2 - Consumption

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.427[a]	.182	.182	216.60186

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_38, m_d_23, m_d_26, m_d_35, m_d_37, m_d_29, m_d_25, m_d_41, m_d_14, m_d_33, m_d_20, m_d_21, m_d_32, m_d_17, m_d_18, m_d_27, m_d_16, m_d_15, m_d_31, m_d_28, m_d_34, m_d_19, m_d_39, washer, m_d_30, m_d_40, m_d_36, microwave_e, m_d_24, m_d_42, devcdd, devhdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.324E8	35	15211787.471	324.232	.000[a]
	Residual	2.388E9	50897	46916.366		
	Total	2.920E9	50932			

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_38, m_d_23, m_d_26, m_d_35, m_d_37, m_d_29, m_d_25, m_d_41, m_d_14, m_d_33, m_d_20, m_d_21, m_d_32, m_d_17, m_d_18, m_d_27, m_d_16, m_d_15, m_d_31, m_d_28, m_d_34, m_d_19, m_d_39, washer, m_d_30, m_d_40, m_d_36, microwave_e, m_d_24, m_d_42, devcdd, devhdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	62.887	6.480		9.705	.000	50.187	75.587
	microwave_e	-21.568	6.768	-.017	-3.187	.001	-34.832	-8.303
	washer	-42.455	6.040	-.034	-7.029	.000	-54.294	-30.615
	devcdd	.924	.015	.552	63.022	.000	.895	.953
	devhdd	.513	.026	.399	19.611	.000	.462	.565

m_d_12	-141.465	216.924	-.003	-.652	.514	-566.638	283.708
m_d_13	-102.121	14.978	-.064	-6.818	.000	-131.479	-72.764
m_d_14	-60.475	11.292	-.044	-5.355	.000	-82.608	-38.341
m_d_15	-73.346	9.253	-.055	-7.927	.000	-91.481	-55.211
m_d_16	-101.161	8.312	-.075	-12.170	.000	-117.453	-84.868
m_d_17	-89.245	7.450	-.066	-11.980	.000	-103.846	-74.644
m_d_18	-128.933	7.798	-.096	-16.535	.000	-144.217	-113.650
m_d_19	-38.193	8.160	-.029	-4.680	.000	-54.187	-22.198
m_d_20	-50.088	8.364	-.037	-5.989	.000	-66.481	-33.695
m_d_21	21.919	7.806	.016	2.808	.005	6.618	37.220
m_d_23	-70.053	8.758	-.049	-7.999	.000	-87.219	-52.887
m_d_24	-163.798	15.471	-.125	-10.587	.000	-194.122	-133.474
m_d_25	-48.511	13.026	-.035	-3.724	.000	-74.043	-22.979
m_d_26	-63.476	10.981	-.045	-5.781	.000	-84.998	-41.954
m_d_27	-60.055	9.562	-.045	-6.281	.000	-78.797	-41.314
m_d_28	-96.832	8.245	-.073	-11.745	.000	-112.991	-80.672
m_d_29	-83.083	7.587	-.060	-10.951	.000	-97.953	-68.213
m_d_30	-51.050	7.465	-.039	-6.839	.000	-65.682	-36.419
m_d_31	-18.630	8.138	-.014	-2.289	.022	-34.579	-2.680
m_d_32	5.312	8.115	.004	.655	.513	-10.594	21.217
m_d_33	-8.404	8.041	-.006	-1.045	.296	-24.164	7.356
m_d_34	48.091	7.446	.036	6.459	.000	33.498	62.685
m_d_35	-81.846	9.806	-.058	-8.347	.000	-101.065	-62.626
m_d_36	-96.597	14.465	-.074	-6.678	.000	-124.948	-68.246
m_d_37	-44.023	13.221	-.032	-3.330	.001	-69.936	-18.109
m_d_38	-13.463	10.217	-.009	-1.318	.188	-33.488	6.562
m_d_39	-51.301	9.656	-.039	-5.313	.000	-70.227	-32.374
m_d_40	-66.649	9.103	-.051	-7.322	.000	-84.490	-48.808
m_d_41	-50.037	8.049	-.036	-6.216	.000	-65.814	-34.261
m_d_42	-108.015	8.194	-.083	-13.182	.000	-124.075	-91.955
m_d_43	6.236	8.921	.005	.699	.485	-11.249	23.721

a. Dependent Variable: devncons

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.116[a]	.013	.013	1497.27640

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_38, m_d_26, m_d_35, m_d_37, m_d_29, m_d_25, m_d_14, m_d_41, m_d_33, m_d_32, m_d_20, m_d_21, m_d_17, m_d_18, m_d_27, m_d_16, m_d_15, m_d_31, m_d_28, m_d_34, m_d_19, m_d_30, m_d_39, washer, m_d_40, m_d_36, m_d_24, microwave_e, m_d_22, devcdd, devhdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.895E9	35	54131251.912	24.146	.000[a]
	Residual	1.400E11	62463	2241836.607		
	Total	1.419E11	62498			

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_38, m_d_26, m_d_35, m_d_37, m_d_29, m_d_25, m_d_14, m_d_41, m_d_33, m_d_32, m_d_20, m_d_21, m_d_17, m_d_18, m_d_27, m_d_16, m_d_15, m_d_31, m_d_28, m_d_34, m_d_19, m_d_30, m_d_39, washer, m_d_40, m_d_36, m_d_24, microwave_e, m_d_22, devcdd, devhdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-315.845	47.927		-6.590	.000	-409.782	-221.907
	microwave_e	49.357	41.750	.006	1.182	.237	-32.473	131.188
	washer	6.195	37.575	.001	.165	.869	-67.453	79.842
	devcdd	1.140	.092	.112	12.375	.000	.959	1.321
	devhdd	-.401	.169	-.050	-2.372	.018	-.732	-.070

m_d_12	418.431	1063.033	.002	.394	.694	-1665.115	2501.977
m_d_13	666.554	101.748	.066	6.551	.000	467.127	865.980
m_d_14	536.316	78.640	.062	6.820	.000	382.181	690.451
m_d_15	333.286	65.716	.040	5.072	.000	204.483	462.089
m_d_16	195.506	59.163	.023	3.305	.001	79.547	311.465
m_d_17	88.198	51.847	.010	1.701	.089	-13.422	189.818
m_d_18	32.233	50.958	.004	.633	.527	-67.645	132.110
m_d_19	220.198	51.664	.026	4.262	.000	118.937	321.459
m_d_20	178.494	52.455	.021	3.403	.001	75.683	281.306
m_d_21	295.257	50.970	.035	5.793	.000	195.355	395.158
m_d_22	182.516	51.772	.022	3.525	.000	81.042	283.989
m_d_23	258.584	62.997	.029	4.105	.000	135.111	382.058
m_d_24	592.584	105.551	.072	5.614	.000	385.703	799.464
m_d_25	665.451	90.253	.077	7.373	.000	488.554	842.347
m_d_26	492.323	76.695	.055	6.419	.000	341.999	642.646
m_d_27	387.629	67.645	.046	5.730	.000	255.044	520.213
m_d_28	198.942	58.572	.024	3.397	.001	84.141	313.744
m_d_29	77.053	51.705	.009	1.490	.136	-24.289	178.394
m_d_30	98.743	50.389	.012	1.960	.050	-.019	197.505
m_d_31	230.173	51.699	.027	4.452	.000	128.842	331.503
m_d_32	271.864	51.696	.032	5.259	.000	170.539	373.188
m_d_33	261.690	51.497	.031	5.082	.000	160.755	362.625
m_d_34	317.363	53.958	.038	5.882	.000	211.606	423.120
m_d_35	337.102	69.331	.038	4.862	.000	201.213	472.992
m_d_36	663.155	98.954	.081	6.702	.000	469.205	857.105
m_d_37	677.239	91.009	.077	7.441	.000	498.860	855.617
m_d_38	524.534	71.548	.059	7.331	.000	384.300	664.768
m_d_39	396.147	67.172	.048	5.898	.000	264.490	527.803
m_d_40	299.152	62.023	.036	4.823	.000	177.587	420.716
m_d_41	172.498	52.017	.020	3.316	.001	70.545	274.450
m_d_43	216.566	46.627	.026	4.645	.000	125.178	307.954

a. Dependent Variable: devncons

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.116[a]	.013	.013	1446.70931

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_38, m_d_26, m_d_35, m_d_37, m_d_29, m_d_25, m_d_14, m_d_41, m_d_33, m_d_32, m_d_21, m_d_20, m_d_17, m_d_18, m_d_27, m_d_16, m_d_15, m_d_31, m_d_28, m_d_19, m_d_34, m_d_30, washer, m_d_39, m_d_40, m_d_36, microwave_e, m_d_24, m_d_22, devcdd, devhdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.976E9	35	56453686.310	26.973	.000[a]
	Residual	1.453E11	69418	2092967.830		
	Total	1.473E11	69453			

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_38, m_d_26, m_d_35, m_d_37, m_d_29, m_d_25, m_d_14, m_d_41, m_d_33, m_d_32, m_d_21, m_d_20, m_d_17, m_d_18, m_d_27, m_d_16, m_d_15, m_d_31, m_d_28, m_d_19, m_d_34, m_d_30, washer, m_d_39, m_d_40, m_d_36, microwave_e, m_d_24, m_d_22, devcdd, devhdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-279.789	42.581		-6.571	.000	-363.248	-196.329
	microwave_e	46.083	38.131	.006	1.209	.227	-28.653	120.820
	washer	2.318	34.915	.000	.066	.947	-66.115	70.752
	devcdd	1.159	.083	.116	13.876	.000	.995	1.322
	devhdd	-.236	.152	-.030	-1.555	.120	-.533	.061

m_d_12	308.544	728.066	.002	.424	.672	-1118.464	1735.552
m_d_13	584.416	90.768	.060	6.439	.000	406.512	762.320
m_d_14	474.301	70.163	.057	6.760	.000	336.782	611.821
m_d_15	288.984	58.875	.035	4.908	.000	173.589	404.380
m_d_16	163.356	53.119	.020	3.075	.002	59.244	267.469
m_d_17	73.983	46.733	.009	1.583	.113	-17.614	165.580
m_d_18	22.727	45.976	.003	.494	.621	-67.385	112.839
m_d_19	196.665	46.595	.024	4.221	.000	105.338	287.992
m_d_20	155.729	47.305	.019	3.292	.001	63.011	248.448
m_d_21	273.113	46.006	.033	5.936	.000	182.941	363.285
m_d_22	169.939	46.576	.021	3.649	.000	78.651	261.228
m_d_23	222.187	56.285	.026	3.948	.000	111.868	332.505
m_d_24	502.059	93.808	.063	5.352	.000	318.196	685.921
m_d_25	589.848	80.188	.070	7.356	.000	432.680	747.016
m_d_26	436.634	68.505	.051	6.374	.000	302.365	570.903
m_d_27	338.942	60.549	.041	5.598	.000	220.265	457.618
m_d_28	162.984	52.571	.020	3.100	.002	59.945	266.024
m_d_29	62.235	46.666	.007	1.334	.182	-29.230	153.700
m_d_30	84.907	45.428	.011	1.869	.062	-4.132	173.945
m_d_31	205.770	46.581	.025	4.417	.000	114.472	297.069
m_d_32	245.938	46.634	.030	5.274	.000	154.535	337.341
m_d_33	241.496	46.461	.029	5.198	.000	150.433	332.560
m_d_34	294.037	48.414	.036	6.073	.000	199.146	388.928
m_d_35	291.553	61.914	.034	4.709	.000	170.201	412.905
m_d_36	579.122	88.048	.073	6.577	.000	406.548	751.696
m_d_37	601.081	81.011	.071	7.420	.000	442.300	759.863
m_d_38	467.635	63.882	.054	7.320	.000	342.426	592.844
m_d_39	348.633	60.175	.044	5.794	.000	230.691	466.576
m_d_40	259.656	55.767	.033	4.656	.000	150.352	368.959
m_d_41	153.102	47.273	.018	3.239	.001	60.447	245.757
m_d_43	204.535	42.661	.025	4.794	.000	120.920	288.150

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: E3 - Both

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.399[a]	.160	.159	222.23876

a. Predictors: (Constant), y_d_3, devhdd, washer, y_d_1, microwave_e, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.355E8	6	72576665.918	1469.459	.000[a]
	Residual	2.293E9	46435	49390.068		
	Total	2.729E9	46441			

a. Predictors: (Constant), y_d_3, devhdd, washer, y_d_1, microwave_e, devcdd
b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	18.267	1.654		11.047	.000	15.026	21.507
	microwave_e	-45.189	6.077	-.036	-7.436	.000	-57.099	-33.278
	washer	-62.501	5.788	-.051	-10.798	.000	-73.846	-51.156
	devcdd	.925	.010	.554	90.414	.000	.905	.945
	devhdd	.394	.008	.303	49.641	.000	.378	.409
	y_d_1	-25.945	2.347	-.052	-11.053	.000	-30.546	-21.344
	y_d_3	4.418	3.194	.008	1.383	.167	-1.843	10.678

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: E3 - Consumption

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.394[a]	.155	.155	220.06355

a. Predictors: (Constant), y_d_3, devhdd, washer, y_d_1, microwave_e, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.541E8	6	75678705.501	1562.707	.000[a]
	Residual	2.466E9	50926	48427.966		
	Total	2.920E9	50932			

a. Predictors: (Constant), y_d_3, devhdd, washer, y_d_1, microwave_e, devcdd
b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	16.757	1.564		10.716	.000	13.692	19.822
	microwave_e	-44.900	5.877	-.035	-7.640	.000	-56.420	-33.381
	washer	-63.321	5.639	-.050	-11.230	.000	-74.372	-52.269
	devcdd	.917	.010	.548	93.687	.000	.897	.936
	devhdd	.393	.007	.306	52.447	.000	.379	.408
	y_d_1	-25.208	2.220	-.051	-11.357	.000	-29.558	-20.857
	y_d_3	6.897	2.973	.012	2.320	.020	1.070	12.724

a. Dependent Variable: devncons

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.100[a]	.010	.010	1499.45696

a. Predictors: (Constant), y_d_3, devhdd, washer, y_d_1, microwave_e, devcdd, y_d_2

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.423E9	7	2.034E8	90.445	.000[a]
	Residual	1.405E11	62491	2248371.187		
	Total	1.419E11	62498			

a. Predictors: (Constant), y_d_3, devhdd, washer, y_d_1, microwave_e, devcdd, y_d_2
b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-227.662	1060.348		-.215	.830	-2305.945	1850.620
	microwave_e	-10.896	34.797	-.001	-.313	.754	-79.098	57.305
	washer	-54.465	34.225	-.007	-1.591	.112	-121.545	12.616
	devcdd	1.415	.058	.139	24.285	.000	1.301	1.529
	devhdd	.629	.046	.078	13.679	.000	.539	.719
	y_d_1	204.658	1060.393	.066	.193	.847	-1873.714	2283.029
	y_d_2	244.614	1060.391	.079	.231	.818	-1833.754	2322.982
	y_d_3	242.759	1060.442	.068	.229	.819	-1835.709	2321.227

a. Dependent Variable: devncons

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.101[a]	.010	.010	1448.77401

a. Predictors: (Constant), y_d_3, devhdd, washer, y_d_1, microwave_e, devcdd, y_d_2

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.502E9	7	2.146E8	102.235	.000[a]
	Residual	1.458E11	69446	2098946.136		
	Total	1.473E11	69453			

a. Predictors: (Constant), y_d_3, devhdd, washer, y_d_1, microwave_e, devcdd, y_d_2
b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-248.239	724.472		-.343	.732	-1668.202	1171.724
	microwave_e	-4.989	32.715	-.001	-.152	.879	-69.110	59.133
	washer	-49.694	32.431	-.006	-1.532	.125	-113.258	13.871
	devcdd	1.410	.054	.141	26.079	.000	1.304	1.516
	devhdd	.660	.042	.085	15.659	.000	.578	.743
	y_d_1	224.116	724.527	.075	.309	.757	-1195.955	1644.187
	y_d_2	262.589	724.525	.088	.362	.717	-1157.479	1682.656
	y_d_3	261.157	724.588	.075	.360	.719	-1159.033	1681.348

a. Dependent Variable: devncons

Appendix C: Detailed Alternative Gas Billing Regression Model Results

The following tables provide detail on the alternative gas billing models considered for the LIEE Pilot Impact evaluation that were examined but ultimately were not used.

PG&E LIEE Pilots - Final Electric Model: G1 - Both

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.629[a]	.396	.396	20.01363

a. Predictors: (Constant), devhdd, washer, microwave_g, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14748978.953	4	3687244.738	9205.562	.000[a]
	Residual	22495826.717	56163	400.545		
	Total	37244805.670	56167			

a. Predictors: (Constant), devhdd, washer, microwave_g, devcdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.095	.088		-12.468	.000	-1.267	-.923
	microwave_g	.121	.471	.001	.258	.796	-.801	1.044
	washer	.127	.432	.001	.293	.769	-.720	.973
	devcdd	-.008	.001	-.045	-9.560	.000	-.009	-.006
	devhdd	.083	.001	.597	127.268	.000	.082	.084

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: G1 - Consumption

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.627[a]	.393	.393	20.04341

a. Predictors: (Constant), devhdd, washer, microwave_g, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16231516.022	4	4057879.006	10100.804	.000[a]
	Residual	25084534.149	62440	401.738		
	Total	41316050.171	62444			

a. Predictors: (Constant), devhdd, washer, microwave_g, devcdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.040	.083		-12.506	.000	-1.203	-.877
	microwave_g	.079	.463	.001	.170	.865	-.829	.987
	washer	.089	.428	.001	.207	.836	-.751	.928
	devcdd	-.008	.001	-.048	-10.803	.000	-.010	-.007
	devhdd	.082	.001	.592	132.978	.000	.081	.084

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: G1 - Pre/Post

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.137[a]	.019	.019	181.95254

a. Predictors: (Constant), devhdd, washer, microwave_g, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35597081.316	4	8899270.329	268.805	.000[a]
	Residual	1.870E9	56496	33106.727		
	Total	1.906E9	56500			

a. Predictors: (Constant), devhdd, washer, microwave_g, devcdd
b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.523	.796		-1.913	.056	-3.083	.037
	microwave_g	-4.852	4.258	-.005	-1.139	.255	-13.198	3.494
	washer	3.897	3.918	.004	.995	.320	-3.783	11.577
	devcdd	-.006	.007	-.005	-.802	.422	-.020	.008
	devhdd	.132	.006	.133	22.267	.000	.120	.143

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: G1 - No Screen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.140[a]	.019	.019	180.75525

a. Predictors: (Constant), devhdd, washer, microwave_g, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40799585.695	4	10199896.424	312.186	.000[a]
	Residual	2.054E9	62861	32672.461		
	Total	2.095E9	62865			

a. Predictors: (Constant), devhdd, washer, microwave_g, devcdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.546	.747		-2.069	.039	-3.011	-.082
	microwave_g	-4.153	4.160	-.004	-.998	.318	-12.307	4.000
	washer	4.220	3.854	.004	1.095	.274	-3.333	11.773
	devcdd	-.002	.007	-.002	-.321	.748	-.016	.011
	devhdd	.136	.006	.138	24.464	.000	.125	.147

a. Dependent Variable: devncons

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.678[a]	.460	.460	18.90697

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_26, m_d_35, m_d_38, m_d_37, m_d_25, m_d_29, m_d_14, m_d_33, m_d_17, m_d_20, m_d_27, m_d_18, m_d_21, m_d_16, m_d_41, m_d_15, m_d_19, m_d_28, m_d_31, m_d_34, m_d_32, m_d_30, washer, m_d_39, m_d_40, m_d_24, microwave_g, m_d_36, m_d_22, devcdd, devhdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19006496.067	35	543042.745	1519.114	.000[a]
	Residual	22309554.104	62409	357.473		
	Total	41316050.171	62444			

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_26, m_d_35, m_d_38, m_d_37, m_d_25, m_d_29, m_d_14, m_d_33, m_d_17, m_d_20, m_d_27, m_d_18, m_d_21, m_d_16, m_d_41, m_d_15, m_d_19, m_d_28, m_d_31, m_d_34, m_d_32, m_d_30, washer, m_d_39, m_d_40, m_d_24, microwave_g, m_d_36, m_d_22, devcdd, devhdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.780	.586		1.331	.183	-.369	1.928
	microwave_g	-1.878	.537	-.013	-3.501	.000	-2.930	-.827
	washer	-1.857	.470	-.014	-3.949	.000	-2.778	-.935
	devcdd	-.004	.001	-.021	-3.224	.001	-.006	-.001
	devhdd	.069	.002	.495	31.633	.000	.065	.073
	m_d_12	-23.778	13.423	-.005	-1.772	.076	-50.087	2.530

m_d_13	8.051	1.273	.046	6.323	.000	5.555	10.547
m_d_14	15.003	.979	.102	15.321	.000	13.084	16.922
m_d_15	2.553	.813	.018	3.140	.002	.960	4.146
m_d_16	-3.891	.730	-.027	-5.329	.000	-5.322	-2.460
m_d_17	-2.915	.639	-.020	-4.558	.000	-4.168	-1.661
m_d_18	-4.754	.627	-.033	-7.579	.000	-5.983	-3.525
m_d_19	-5.990	.637	-.041	-9.407	.000	-7.239	-4.742
m_d_20	-6.230	.644	-.043	-9.667	.000	-7.493	-4.967
m_d_21	-6.625	.626	-.045	-10.575	.000	-7.852	-5.397
m_d_22	-6.930	.634	-.050	-10.927	.000	-8.174	-5.687
m_d_23	-12.330	.778	-.080	-15.841	.000	-13.856	-10.805
m_d_24	-15.106	1.330	-.108	-11.357	.000	-17.714	-12.499
m_d_25	12.189	1.135	.082	10.743	.000	9.965	14.412
m_d_26	8.394	.949	.056	8.849	.000	6.534	10.253
m_d_27	5.179	.837	.035	6.187	.000	3.538	6.819
m_d_28	-2.935	.720	-.021	-4.079	.000	-4.346	-1.525
m_d_29	-.961	.634	-.006	-1.515	.130	-2.204	.282
m_d_30	-4.286	.618	-.030	-6.935	.000	-5.498	-3.075
m_d_31	-5.671	.631	-.040	-8.984	.000	-6.908	-4.434
m_d_32	-5.983	.628	-.042	-9.530	.000	-7.214	-4.753
m_d_33	-5.648	.634	-.038	-8.904	.000	-6.891	-4.404
m_d_34	-9.398	.660	-.066	-14.234	.000	-10.692	-8.104
m_d_35	-12.577	.858	-.084	-14.665	.000	-14.258	-10.896
m_d_36	-2.696	1.240	-.019	-2.174	.030	-5.126	-.266
m_d_37	8.477	1.138	.057	7.451	.000	6.247	10.707
m_d_38	12.399	.883	.083	14.035	.000	10.667	14.130
m_d_39	3.964	.831	.028	4.772	.000	2.336	5.592
m_d_40	-1.600	.769	-.011	-2.079	.038	-3.108	-.092
m_d_41	-1.448	.645	-.010	-2.244	.025	-2.712	-.183
m_d_43	-4.452	.586	-.031	-7.601	.000	-5.600	-3.304

a. Dependent Variable: devncons

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.150[a]	.022	.022	181.64848

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_26, m_d_38, m_d_35, m_d_37, m_d_29, m_d_25, m_d_14, m_d_33, m_d_17, m_d_20, m_d_18, m_d_27, m_d_21, m_d_41, m_d_16, m_d_15, m_d_19, m_d_28, m_d_34, m_d_32, m_d_31, m_d_30, m_d_39, washer, m_d_40, m_d_24, microwave_g, m_d_22, m_d_36, devcdd, devhdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42865982.435	35	1224742.355	37.118	.000[a]
	Residual	1.863E9	56465	32996.171		
	Total	1.906E9	56500			

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_26, m_d_38, m_d_35, m_d_37, m_d_29, m_d_25, m_d_14, m_d_33, m_d_17, m_d_20, m_d_18, m_d_27, m_d_21, m_d_41, m_d_16, m_d_15, m_d_19, m_d_28, m_d_34, m_d_32, m_d_31, m_d_30, m_d_39, washer, m_d_40, m_d_24, microwave_g, m_d_22, m_d_36, devcdd, devhdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	13.973	6.081		2.298	.022	2.054	25.891
	microwave_g	-9.997	5.380	-.010	-1.858	.063	-20.541	.547
	washer	-1.085	4.680	-.001	-.232	.817	-10.259	8.088
	devcdd	.021	.012	.017	1.822	.068	-.002	.044
	devhdd	.185	.022	.187	8.255	.000	.141	.229

m_d_12	-65.842	182.061	-.002	-.362	.718	-422.683	290.999
m_d_13	-29.443	13.172	-.023	-2.235	.025	-55.259	-3.627
m_d_14	-2.974	10.138	-.003	-.293	.769	-22.845	16.898
m_d_15	-8.977	8.387	-.009	-1.070	.284	-25.417	7.462
m_d_16	-14.482	7.506	-.014	-1.930	.054	-29.194	.229
m_d_17	-7.051	6.544	-.007	-1.077	.281	-19.878	5.776
m_d_18	-11.745	6.409	-.011	-1.832	.067	-24.308	.817
m_d_19	-14.150	6.509	-.014	-2.174	.030	-26.907	-1.393
m_d_20	-18.117	6.587	-.017	-2.750	.006	-31.027	-5.207
m_d_21	-9.823	6.404	-.009	-1.534	.125	-22.375	2.728
m_d_22	-12.553	6.506	-.013	-1.929	.054	-25.304	.199
m_d_23	-30.311	8.021	-.027	-3.779	.000	-46.031	-14.590
m_d_24	-66.194	13.809	-.066	-4.793	.000	-93.261	-39.128
m_d_25	-10.024	11.758	-.009	-.853	.394	-33.070	13.021
m_d_26	-7.197	9.819	-.007	-.733	.464	-26.443	12.048
m_d_27	-6.471	8.634	-.006	-.750	.454	-23.394	10.451
m_d_28	-13.107	7.402	-.013	-1.771	.077	-27.614	1.400
m_d_29	-2.163	6.487	-.002	-.333	.739	-14.876	10.551
m_d_30	-7.663	6.320	-.008	-1.212	.225	-20.051	4.724
m_d_31	-13.167	6.448	-.013	-2.042	.041	-25.805	-.529
m_d_32	-15.525	6.421	-.015	-2.418	.016	-28.110	-2.939
m_d_33	-10.751	6.480	-.010	-1.659	.097	-23.452	1.951
m_d_34	-18.498	6.783	-.018	-2.727	.006	-31.793	-5.203
m_d_35	-39.071	8.871	-.037	-4.404	.000	-56.458	-21.684
m_d_36	-43.738	12.856	-.044	-3.402	.001	-68.936	-18.539
m_d_37	-17.773	11.797	-.017	-1.507	.132	-40.894	5.349
m_d_38	.445	9.135	.000	.049	.961	-17.460	18.349
m_d_39	-10.831	8.569	-.011	-1.264	.206	-27.627	5.965
m_d_40	-15.887	7.907	-.016	-2.009	.045	-31.384	-.390
m_d_41	-5.643	6.564	-.005	-.860	.390	-18.509	7.222
m_d_43	-7.562	5.926	-.007	-1.276	.202	-19.177	4.053

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: G2 - No Screen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.153[a]	.023	.023	180.44864

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_26, m_d_35, m_d_38, m_d_37, m_d_25, m_d_29, m_d_14, m_d_33, m_d_17, m_d_20, m_d_27, m_d_18, m_d_21, m_d_16, m_d_41, m_d_15, m_d_19, m_d_28, m_d_31, m_d_34, m_d_32, m_d_30, washer, m_d_39, m_d_40, m_d_24, microwave_g, m_d_36, m_d_22, devcdd, devhdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48770809.925	35	1393451.712	42.794	.000[a]
	Residual	2.046E9	62830	32561.712		
	Total	2.095E9	62865			

a. Predictors: (Constant), m_d_43, m_d_12, m_d_13, m_d_23, m_d_26, m_d_35, m_d_38, m_d_37, m_d_25, m_d_29, m_d_14, m_d_33, m_d_17, m_d_20, m_d_27, m_d_18, m_d_21, m_d_16, m_d_41, m_d_15, m_d_19, m_d_28, m_d_31, m_d_34, m_d_32, m_d_30, washer, m_d_39, m_d_40, m_d_24, microwave_g, m_d_36, m_d_22, devcdd, devhdd

b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	11.398	5.574		2.045	.041	.473	22.323
	microwave_g	-8.290	5.098	-.008	-1.626	.104	-18.282	1.701
	washer	.109	4.478	.000	.024	.981	-8.667	8.885
	devcdd	.029	.011	.024	2.688	.007	.008	.051
	devhdd	.184	.021	.186	8.879	.000	.143	.225

m_d_12	-70.840	128.104	-.002	-.553	.580	-321.924	180.244
m_d_13	-23.301	12.118	-.019	-1.923	.055	-47.053	.451
m_d_14	1.323	9.319	.001	.142	.887	-16.943	19.589
m_d_15	-5.735	7.736	-.006	-.741	.459	-20.898	9.429
m_d_16	-11.312	6.946	-.011	-1.629	.103	-24.926	2.303
m_d_17	-5.398	6.082	-.005	-.887	.375	-17.318	6.523
m_d_18	-11.083	5.964	-.011	-1.858	.063	-22.773	.607
m_d_19	-14.036	6.055	-.014	-2.318	.020	-25.905	-2.167
m_d_20	-17.879	6.128	-.017	-2.917	.004	-29.891	-5.868
m_d_21	-9.209	5.959	-.009	-1.545	.122	-20.888	2.471
m_d_22	-9.696	6.032	-.010	-1.607	.108	-21.519	2.127
m_d_23	-26.780	7.406	-.024	-3.616	.000	-41.295	-12.264
m_d_24	-60.654	12.659	-.061	-4.791	.000	-85.467	-35.842
m_d_25	-5.697	10.795	-.005	-.528	.598	-26.856	15.461
m_d_26	-3.003	9.028	-.003	-.333	.739	-20.699	14.693
m_d_27	-3.039	7.965	-.003	-.382	.703	-18.649	12.572
m_d_28	-10.636	6.847	-.010	-1.553	.120	-24.056	2.783
m_d_29	-.831	6.031	-.001	-.138	.890	-12.652	10.991
m_d_30	-6.330	5.878	-.006	-1.077	.282	-17.850	5.191
m_d_31	-13.066	6.003	-.013	-2.177	.030	-24.832	-1.301
m_d_32	-14.709	5.971	-.015	-2.464	.014	-26.412	-3.007
m_d_33	-10.401	6.033	-.010	-1.724	.085	-22.226	1.424
m_d_34	-15.346	6.279	-.015	-2.444	.015	-27.654	-3.039
m_d_35	-34.964	8.160	-.033	-4.285	.000	-50.959	-18.970
m_d_36	-38.973	11.800	-.039	-3.303	.001	-62.101	-15.844
m_d_37	-13.670	10.828	-.013	-1.263	.207	-34.892	7.552
m_d_38	4.137	8.406	.004	.492	.623	-12.339	20.614
m_d_39	-7.352	7.904	-.007	-.930	.352	-22.845	8.140
m_d_40	-12.743	7.322	-.013	-1.741	.082	-27.094	1.607
m_d_41	-3.553	6.138	-.003	-.579	.563	-15.584	8.477
m_d_43	-8.395	5.571	-.008	-1.507	.132	-19.315	2.524

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: G3 - Both

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.635[a]	.403	.403	19.88950

a. Predictors: (Constant), y_d_3, devhdd, microwave_g, washer, y_d_1, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15027953.732	6	2504658.955	6331.417	.000[a]
	Residual	22216851.938	56161	395.592		
	Total	37244805.670	56167			

a. Predictors: (Constant), y_d_3, devhdd, microwave_g, washer, y_d_1, devcdd
b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.406	.134		-10.470	.000	-1.669	-1.142
	microwave_g	-5.147	.511	-.036	-10.071	.000	-6.148	-4.145
	washer	-4.863	.472	-.037	-10.312	.000	-5.788	-3.939
	devcdd	-.005	.001	-.028	-5.945	.000	-.006	-.003
	devhdd	.083	.001	.596	127.818	.000	.082	.084
	y_d_1	-1.435	.192	-.027	-7.489	.000	-1.810	-1.059
	y_d_3	5.321	.254	.087	20.965	.000	4.824	5.819

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: G3 - Consumption

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.632[a]	.400	.400	19.93009

a. Predictors: (Constant), y_d_3, devhdd, microwave_g, washer, y_d_1, devcdd, y_d_2

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16515534.089	7	2359362.013	5939.856	.000[a]
	Residual	24800516.082	62437	397.209		
	Total	41316050.171	62444			

a. Predictors: (Constant), y_d_3, devhdd, microwave_g, washer, y_d_1, devcdd, y_d_2
b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-27.988	14.094		-1.986	.047	-55.611	-.364
	microwave_g	-4.819	.499	-.033	-9.660	.000	-5.797	-3.841
	washer	-4.548	.463	-.033	-9.829	.000	-5.454	-3.641
	devcdd	-.006	.001	-.032	-7.175	.000	-.007	-.004
	devhdd	.082	.001	.592	133.705	.000	.081	.084
	y_d_1	25.258	14.094	.476	1.792	.073	-2.366	52.883
	y_d_2	26.649	14.094	.506	1.891	.059	-.976	54.273
	y_d_3	31.613	14.095	.519	2.243	.025	3.987	59.239

a. Dependent Variable: devncons

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.138[a]	.019	.019	181.91383

a. Predictors: (Constant), y_d_3, devhdd, microwave_g, washer, y_d_1, devcdd

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36459088.967	6	6076514.828	183.621	.000[a]
	Residual	1.870E9	56494	33092.641		
	Total	1.906E9	56500			

a. Predictors: (Constant), y_d_3, devhdd, microwave_g, washer, y_d_1, devcdd
b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.788	1.224		-1.461	.144	-4.188	.611
	microwave_g	-13.918	4.654	-.014	-2.991	.003	-23.040	-4.796
	washer	-4.689	4.304	-.005	-1.089	.276	-13.126	3.747
	devcdd	-.001	.007	-.001	-.113	.910	-.015	.014
	devhdd	.131	.006	.132	22.226	.000	.120	.143
	y_d_1	-3.014	1.747	-.008	-1.725	.084	-6.438	.410
	y_d_3	8.885	2.315	.020	3.838	.000	4.348	13.423

a. Dependent Variable: devncons

PG&E LIEE Pilots - Final Electric Model: G3 - No Screen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.141[a]	.020	.020	180.72095

a. Predictors: (Constant), y_d_3, devhdd, microwave_g, washer, y_d_1, devcdd, y_d_2

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41676995.782	7	5953856.540	182.298	.000[a]
	Residual	2.053E9	62858	32660.062		
	Total	2.095E9	62865			

a. Predictors: (Constant), y_d_3, devhdd, microwave_g, washer, y_d_1, devcdd, y_d_2
b. Dependent Variable: devncons

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-45.933	127.798		-.359	.719	-296.417	204.550
	microwave_g	-12.588	4.504	-.012	-2.795	.005	-21.415	-3.760
	washer	-3.763	4.186	-.004	-.899	.369	-11.968	4.442
	devcdd	.003	.007	.002	.372	.710	-.011	.016
	devhdd	.136	.006	.138	24.465	.000	.125	.147
	y_d_1	41.231	127.803	.109	.323	.747	-209.263	291.725
	y_d_2	44.111	127.803	.118	.345	.730	-206.382	294.605
	y_d_3	52.418	127.809	.121	.410	.682	-198.087	302.922

a. Dependent Variable: devncons