November 20, 2013

Advice Letters:
4537-G
4537-G-A

Rasha Prince, Director
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Southern California Gas
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**SUBJECT: D.12-08-044, OP 95 Tier 2 Advice Letter Proposing Long-Term Probability
Model**

Dear Ms. Prince:

Advice Letters 4537-G and 4537-G-A are effective October 3, 2013.

Sincerely,

Edward F. Randolph, Director
Energy Division

Rasha Prince
Director
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September 3, 2013

Advice No. 4537
(U 904 G)

Public Utilities Commission of the State of California

Subject: D.12-08-044, Ordering Paragraph (OP) 95 Tier 2 Advice Letter Proposing Long-Term Probability Model

Southern California Gas Company (SoCalGas) hereby submits for approval by the California Public Utilities Commission (Commission) a proposed post enrollment and post re-certification long-term probability model and selection rates for California Alternate Rates for Energy (CARE) enrollees.

Purpose

This filing complies with Ordering Paragraph (OP) 95 of Decision (D.)12-08-044, which directs the utilities to submit an Advice Letter proposing a long-term probability model framework to cost-effectively identify CARE program enrollees who have the probability of being ineligible in the program, while tailoring the model to the Utilities' specific territory that take into account the basic eligibility probability factors, populations and administration costs.

Background

In OP 95 of D.12-08-044, the Decision on Large Investor-Owned Utilities' (IOUs) 2012 – 2014 Energy Savings Assistance (ESA) and CARE Applications,[1] the Commission directed the IOUs to submit by September 1, a Tier 2 Advice Letter proposing a long-term probability model framework that incorporates the basic factors required in the interim probability model, including an optimal Post Enrollment and Post Re-certification Income Verification rate tailored to each utility, to cost-effectively identify CARE Program enrollees who have the probability of being ineligible in the program, while tailoring the model to the Utilities' specific territory that take into account the basic probability factors, populations and administration costs.[2]

Prior to the Long-Term Model, OP 89 of D.12-08-044 first ordered the utilities to develop an Interim Model by incorporating basic factors in their modeling as well as any other territory specific factors as appropriate. The basic factors included:

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[1] Issued August 30, 2012.
[2] Because September 1 does not occur on a calendar business day, this Advice Letter is served timely on September 3, 2013.

- High energy use (including customers with usage above 400% baseline in any monthly billing cycle and above)
- Annual bill amounts
- Household size
- PRIZM or ZIP code
- Enrollment method
- Previously indicated customers ineligibility
- Customers previously de-enrolled from the CARE program
- Length of Program Enrollment
- Length of the time lapse since previous income verification

The utilities were ordered to implement their Interim Models within 60 days of the decision to facilitate the tracking, monitoring, and review of data from employing that model and incorporate lessons learned into the design of the Long-Term Model. SoCalGas has followed these requirements and will describe its experience with Interim Models as information from its usage was leveraged for the purpose of Long-Term Model design.

D.12-08-044 assigned the Energy Division to review SoCalGas' proposed long-term probability model and determine whether its design presents a modeling and Post Enrollment and Post Re-certification Income Verification rate to ensure that the likelihood of CARE enrollments is comprised of only eligible households. SoCalGas provides information to facilitate this review, including discussion of compliance with the prescribed development and testing of the Interim Model, the process for the creation of the proposed Long-Term Model, as well as supporting materials regarding the structure, integration, and future use of the Long-Term Model and optimal rate. SoCalGas, with the other IOUs, has also conferred with the Commission's Energy Division (ED) staff, and provides cost and other information to aid in review of the proposed Long-Term Model.

Pre-Decision (D.) 12-08-044 Probability Model (Vintage Model)

Prior to the issuance of D.12-08-044, SoCalGas had been utilizing a CARE post enrollment verification (PEV) model estimated from customers from the California Residential Appliance Saturation Survey, Census data, Athens Research poverty indicators and Prizm median income values to estimate the probability of post-enrollment qualification. Itron Inc., was contracted by SoCalGas to develop the model in 2006, and it was instituted in 2008. The sample consisted of approximately 6,900 customers. The SoCalGas Vintage Model utilized a logit functional form with three independent variables:

- PrizmHHInc (Prizm median neighborhood income)
- SF (single-family indicator)
- MaxWThm (household's maximum billed gas usage during winter months)

The SoCalGas Vintage Model specification and its associated weights are presented below (where P = the probability of qualifying for CARE enrollment):

Logit(P) = 4.4738 – 0.0560*PrizmHHInc – 0.1595*SF – 0.0035*MaxWThm

Vintage Model Recent Performance History

SoCalGas provides Vintage Model performance information in Attachments B and C as requested for this Advice Letter and for general understanding in evaluating the proposed Long-Term Model.

In 2011, 101,038 customers were randomly selected for post enrollment verification. Of those customers, approximately 38.4% were exempted due to having a CARE-eligible-likelihood score greater than 85%. Of the 62,285 customers to which SoCalGas sent verification requests, 33,924 were de-enrolled because they were verified as ineligible or did not respond to the verification request. Of the customers de-enrolled, 31,702 were due to non-response and 2,222 deemed ineligible (see Attachment C for details).

In 2012, SoCalGas randomly selected roughly 83,000 customers for post-enrollment and post-recertification verification. 31,000 customers were exempt due to having a CARE-eligible-likelihood score greater than 85%, and the remaining 52,000-plus customers were mailed a verification request. Of the 52,147 customers to which SoCalGas sent verification requests, 21,397 were successfully verified based on documents provided, and 30,750 were de-enrolled because they were verified as ineligible or did not respond to the verification request. Of the customers de-enrolled, 28,479 were due to non-response, 1,247 were deemed ineligible, and 1,024 were removed from the program per customer's request. Please see Attachments B and C for monthly and annual numbers from 2009 - 2012 and resulting PEV rates (and associated customer counts), and customers who were removed from the program due to non-response and/or ineligibility.

SoCalGas does not have a pre-existing routine report in its system that tracks PEV by enrollment method. However, SoCalGas was able to conduct a special data analysis on 2011 PEV data. As shown in Attachment D-1, SoCalGas found that more of the customers who initially enrolled in response to SoCalGas' mass outreach campaigns (i.e. bill insert, direct mail, web campaign) had a lower CARE probability score and were selected for verification. Similar trends were observed for customers who were enrolled via categorical eligibility and automatic enrollment. A higher percentage of these customers were selected for PEV.

SoCalGas conducted an additional PEV data analysis in 2012, with results similar to 2011 (see Attachment D-2):

- Of the customers successfully verified based on documents received, 52% were income eligible, 41% were categorically eligible, and 7% were enrolled via automatic enrollment. Regarding customers' initial enrollment in the CARE program, 34% received CARE applications from SoCalGas after service establishment, payment arrangement, and customer request; 20% were automatic enrollments, 18% responded to CARE campaigns, 16% were web enrollments, 2% from CBOs and door-to-door outreach, and 10% from other sources such as rate transfer.

- Of the 30,750 customers who failed the verification, 41% were income eligible, 30% were categorically eligible, and 29% were enrolled via automatic enrollment. Regarding customers' initial enrollment in the CARE program, 29% received CARE applications from SoCalGas after service establishment, payment arrangement, and customer request; 22% were automatic enrollments, 21% responded to CARE campaigns, 15%

were web enrollment, 5% from CBOs and door-to-door outreach, and 8% from other sources.

Expenditures

The cost of developing the Pre-Decision 12-08-044 model was $36,345 (in 2006). A consultant was contracted by SoCalGas to analyze customer data and design a model to screen customers applying for the CARE program.   SoCalGas does not track non-capital IT costs by project.   The IT implementation cost for implementing the Probability Model in 2007 was estimated at $22,400. During the Low Income Programs PY 2012-2014 proceeding, SoCalGas responded to ALJ Kim's cost per PEV data request. SoCalGas estimated the average processing cost plus associated activities (i.e. customer inquiries, coordinating billing adjustments with other departments, etc.) to be $7.25 for each returned PEV. For customers who do not return PEV requests, the average cost was $2.40, which included costs for customer inquiries and subsequent billing and processing activities.

Effective Interim Model

Since 2008, SoCalGas had been utilizing a Vintage Model to exclude customers from the PEV process who are most-likely CARE eligible. The factors in the Vintage Model had directly or indirectly utilized several of the factors that D.12-08-044 directed the IOUs to include in the Interim Model, including energy usage, bill amount, PRIZM or ZIP code and household size.

After carefully reviewing SoCalGas' Vintage Model, the nine basic factors, and the 2011 and 2012 PEV results as described above, SoCalGas identified additional factors to supplement the Vintage Model as an initial Interim Model, including the mandated factors, to more accurately identify likely eligible customers in the program.

The SoCalGas Interim Model was implemented by administering additional manual PEV requests. For each of the mandated factors, SoCalGas conducted an analysis of customers within the following categories: PEV terminated, PEV approved, CARE enrollment method, PEV denied, PEV model approved, and PEV customers not filtered through the Vintage Model.

Per OP 102 of D.12-08-044, customers de-enrolled due to failure to respond to a PEV request within the most recent 24 months must be required to complete the verification process to re-enroll in the CARE program. SoCalGas implemented this order and verified 100% of those customers, and therefore concluded that the length of time-lapse since previous income verification would not be included in the Interim Model. For the remaining basic factors, SoCalGas identified factors warranting additional attention (see Attachment E for details):

- Of the customers who initially enrolled via responding to SoCalGas' mass outreach campaigns, more were PEV denied or non-responsive to PEV as compared to other groups.
- Of the customers who were enrolled via categorical eligibility, more were PEV de-enrolled as compared to other groups.
- Of the customers over 400% of baseline usage, 41% responded and verified as CARE eligible.
- Of customers who have been on the program longer, slightly more were PEV approved as compared to other groups.

- Of the customers with high (1-14) PRIZM Codes, more were PEV denied as compared to other groups.

Beginning in October 2012, SoCalGas sent out PEV requests to customers to comply with the 60-day timing requirement of implementing the Interim Model per OP 90 of D.12-08-044. The additional requests were sent to customers who had not been verified and who had at least two of the following three characteristics:

- At least 3 months of bills exceeding 400% of baseline allowance in 2011
- A PRIZM code between 1-14 or 15-39, and
- An enrollment method of bill insert, direct marketing, phone, or web

Customers meeting at least two of the aforementioned criteria were selected based upon the random selection method.

SoCalGas continued evaluation of and adjustment to the Interim Model based on lessons learned from the initial period of review and consequent model enhancements. Initial results helped further refine and validate the Interim Model by focusing on areas warranting additional attention. This was particularly useful in prioritizing and selecting factors to statistically test in the model.

In compliance with D.12-08-044, OP 91, SoCalGas applied the interim PEV rate to all CARE customers, including self-certified and categorically enrolled customers.

In compliance with D.12-08-044, OP 92, and as shown in Attachment C, SoCalGas did not exceed 200% of its 2011 and 2012 PEV rate in setting the Interim Model rate.

SoCalGas closely tracked, monitored, and reviewed results from the Interim Model and incorporated lessons learned in the design of the Long-Term Model, as described herein, with justifications in support of the proposed Long-Term Model (OP 93 of D.12-08-044). Using results from the Interim Model as a foundation, SoCalGas tested the nine mandated factors, as well as additional factors that may potentially influence CARE program qualification. A comparison of two Interim Model scenarios helped SoCalGas identify the optimal model to propose as its Long-Term Model.

Interim Model 1 (variation of nine mandated factors):

The first version of the SoCalGas Interim Model consists of a logit functional form, similar to the Vintage Model. However, there are significant differences:

- *Sample Size:* The Vintage Model was estimated using a sample of customers (approx. N=6,900); Interim Model 1 was estimated using a much larger representative sample (approx. N=1 million) of the SoCalGas residential customer population. This difference was significant because a larger sample more closely approximates the population as a whole. The primary goal was to statistically infer from a sample to a population, and the inference was mitigated with a much larger sample of customers.

- *Model Factors:* The Vintage Model incorporated three relevant factors as described above; Interim Model 1 incorporates a variation of the nine mandated factors as ordered

by D.12-08-044, except for length of time lapse since previous income verification and high-energy use. Per OP 102 of D.12-08-044, customers de-enrolled due to failure to respond to a PEV request within the most recent 24 months were required to complete the verification process to re-enroll in the CARE program. SoCalGas had been verifying 100% of those customers and therefore the factor was not included in the Interim Model. Likewise, high energy use was not included in the model due to statistical insignificance, and was highly correlated with annual bill amounts.

The SoCalGas Interim Model 1 specification is presented below (where P = the probability of qualifying for CARE enrollment):

$$Logit(P) = a_0 + a_1*bill\_amt + a_2*hh\_size + a_3*prizm\_y1 + a_4*prizm\_y3 + a_5* prizm\_f1$$
$$+ a_6* prizm\_f4 + a_7* prizm\_m1 + a_8* prizm\_m4 + a_9*inc\_el + a_{10}*auto\_en$$
$$+ a_{11}*prev\_inel + a_{12}*de\_enroll + a_{13}*enroll + a_{14}*time\_pev$$

The definition, rank, and impact of every term in the model is as follows:

Rank	Term	Definition	Impact*	P-Value
1	*Enroll*	Length of CARE program enrollment	Positive	< 0.0001
2	*prizm_m1*	Affluent Empty Nests (PRIZM Lifestage)	Negative	< 0.0001
3	*prizm_f1*	Accumulated Wealth (PRIZM Lifestage)	Negative	< 0.0001
4	*prizm_f4*	Sustaining Families (PRIZM Lifestage)	Positive	< 0.0001
5	*prizm_y1*	Midlife Success (PRIZM Lifestage)	Negative	< 0.0001
6	*de_enroll*	Previous de-enrollment from CARE program	Positive	< 0.0001
7	*prizm_m4*	Sustaining Seniors (PRIZM Lifestage)	Positive	< 0.0001
8	*bill_amt*	Annual billing amount	Negative	< 0.0001
9	*prizm_y3*	Striving Singles (PRIZM Lifestage)	Positive	< 0.0001
10	*auto_en*	Automatic enrollment to CARE program	Positive	< 0.0001
11	*inc_el*	Income eligibility to CARE program	Positive	< 0.0001
12	*time_pev*	Time lapse since most recent PEV	Positive	< 0.0001
13	*hh_size*	Average household size within customer's zipcode	Negative	< 0.0001
14	*prev_inel*	Previously ineligible in CARE program	Positive	< 0.0001

* Directional impact towards CARE eligibility

The significance of coefficients was determined by calculating chi-square statistics for the likelihood ratio test, and all coefficients are significant at the 95% confidence level. Directional impact of parameter estimates is consistent with expectations. For example, the longer a customer has been enrolled in the CARE program, the more likely the customer will qualify for CARE again, more than likely indicating long-term income stability at levels consistent with program eligibility.

Interim Model 2 (variation of nine mandated factors plus additional factors):

Given the goal of targeting ineligible CARE enrollees, it was important for SoCalGas include as many relevant and significant factors as possible to statistically mimic customer behavior. Beyond the nine mandated factors, SoCalGas noted that behaviors such as payments (i.e.

payment extensions, overdue notices, paperless billing), other low income programs (i.e. LIHEAP, WIC, food stamps), as well as other variables (i.e. single-family home, fixed income, medical qualified) not only increase model integrity, but also represents a more well-rounded profile of a CARE customer.

The SoCalGas Interim Model 2 specification is presented below (where P = the probability of qualifying for CARE enrollment):

$$Logit(P) = a_0 + a_1*bill\_amt + a_2*hh\_size + a_3* prizm\_y1 + a_4* prizm\_y3 + a_5* prizm\_f4$$
$$+ a_6* prizm\_m1 + a_7* prizm\_m4 + a_8*inc\_el + a_9*auto\_en + a_{10}*de\_enroll$$
$$+ a_{11}*enroll + a_{12}*SF + a_{13}*Fixed\_Inc + a_{14}*Medical + a_{15}*LIHEAP + a_{16}*WIC$$
$$+ a_{17}*income + a_{18}*pprls + a_{19}*ovd\_ntc + a_{20}*pay\_ext + a_{21}*food\_stamp$$

The definition, rank, and impact of every term in the model is as follows (note that additional factors to unique to Interim Model 2 are highlighted):[3]

Rank	Term	Definition	Impact*	P-Value
1	*income*	Average income within a customer's PRIZM code	Negative	< 0.0001
2	*Enroll*	Length of CARE program enrollment	Positive	< 0.0001
3	*hh_size*	Average household size within customer's zipcode	Positive	< 0.0001
4	*de_enroll*	Previous de-enrollment from CARE program	Positive	< 0.0001
5	*inc_el*	Income eligibility to CARE program	Positive	< 0.0001
6	*medical*	Medical qualified under 65 years old	Positive	< 0.0001
7	*auto_en*	Automatic enrollment to CARE program	Positive	< 0.0001
8	*fixed_inc*	Customer enrolled in Fixed Income program	Positive	< 0.0001
9	*bill_amt*	Annual billing amount	Negative	< 0.0001
10	*Pprls*	Customer enrolled in paperless billing	Negative	< 0.0001
11	*ovd_ntc*	Customer received at least one overdue notice within the most recent 12 months	Positive	< 0.0001
12	*prizm_f4*	Sustaining Families (PRIZM Lifestage)	Positive	< 0.0001
13	*WIC*	Customer enrolled in WIC program	Positive	< 0.0001
14	*food_stamp*	Customer enrolled in food stamp program	Positive	< 0.0001
15	*LIHEAP*	Customer qualifies for LIHEAP	Positive	< 0.0001
16	*prizm_y3*	Striving Singles (PRIZM Lifestage)	Positive	< 0.0001
17	*prizm_y1*	Midlife Success (PRIZM Lifestage)	Negative	< 0.0001
18	*pay_ext*	Customer requested at least one payment extension within the most recent 12 months	Positive	< 0.0001
19	*prizm_m1*	Affluent Empty Nests (PRIZM Lifestage)	Negative	< 0.0001
20	*prizm_m4*	Sustaining Seniors (PRIZM Lifestage)	Positive	< 0.0001
21	*SF*	Single family indicator	Negative	0.0464

* Directional impact towards CARE eligibility

The significance of coefficients was determined by calculating chi-square statistics for the likelihood ratio test, and all coefficients are significant at the 95% confidence level. Directional

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[3] Note Model 2 did not contain the following terms included in Model 1: prizm_f1, time_pev, prev_inel.

impact of parameter estimates is consistent with expectations. For example, as a customer qualifies for fixed income, the more likely the customer will also qualify for the CARE program.

SoCalGas performed the task of estimating two versions of interim model:
- Interim Model 1 considers the nine mandated factors (with variations) set forth by the Energy Division;
- Interim Model 2 considers the nine mandated factors (with variations) set forth by the Energy Division plus additional significant and relevant factors.

The table below summarizes strengths of the SoCalGas' Interim Models:

Performance measure	Vintage Model	Interim Model 1	Interim Model 2
Number of factors included (including variations)	3	14	21
Factors significant at 95% confidence level	All	All	All
Directional impact of factors is consistent with expectations	All	All	All
Akaike's Information Criterion (smaller is better)	n/a	971606.4	945619.3
Schwarz Criterion (smaller is better)	n/a	971783.2	945878.7
Area under ROC curve (larger is better)	n/a	0.749	0.767

The probability score associated with every customer is defined as the likelihood of qualifying for the CARE program. As a result, the score directly influences the PEV rate. SoCalGas had to strike a balance between determining a score low enough to confidently select ineligible customers, yet high enough to PEV as many ineligible customers as possible. The Interim Models suggest customers with CARE probability less than 30% to be selected for post-enrollment verification.

Similar to the Vintage Model, SoCalGas' Interim Model PEV approach was applied to newly approved and recertified customers to remove those that are most likely ineligible. As a basis for comparison illustrated in the table below, of the customers approved or recertified in May and June 2013, Interim Model 1 would have predicted (i.e., sent PEVs to) 20.7% of the customers (probability score < 30%) as ineligible, and Interim Model 2 would have predicted 5.2% of approved customers (probability score < 30%) as ineligible. Interim Model 2 more effectively identifies the ineligible customers.

Newly Enrolled and Recertified Customers, May and June 2013
(Probability Score < 30%)

	Total Approved	Interim Model 1 customers predicted as ineligible	Interim Model 2 customers predicted as ineligible
May	44,609	8,269 (18.5%)	2,842 (6.4%)
June	53,818	12,146 (22.6%)	2,247 (3.5%)
Average	*98,427*	*20,415 (20.7%)*	*5,089 (5.2%)*

SoCalGas also calculated the average household income and annual billed amounts of newly approved for CARE and recertified customers who had a probability score of less than 0.30. The table below is a summary of the results. Interim Model 2 performed better by typically identifying higher usage and higher household incomes to submit a PEV than Interim Model 1:

New Enrollments and Recertification, May and June 2013
(Probability Score < 30%)

| Category/Month | Count | Average | | | |
		Annual Bill Amount	Annual Usage (Thm)	Household size	Household Income
May 2013					
Interim Model 1	10,429	$312	342.3	2.41	$59,699
Interim Model 2	2,735	$309	339.4	2.48	$81,920
June 2013					
Interim Model 1	14,728	$296	306.1	2.48	$63,871
Interim Model 2	4,984	$322	335.6	2.55	$82,859

Additionally, to perform further evaluation SoCalGas mailed PEV requests in May 2013 to those customers targeted by Interim Model 1 and Interim Model 2. Both Interim Models yielded significantly higher PEV de-enrollment rates than did the Vintage Model (see Attachment C for Vintage Model de-enrollment rate details).

PEV Requests Mailed to Customers, May 2013
(Probability Score < 30%)

Group	Initial number of PEVs mailed	Number of closed accounts	Final Number of PEVs mailed	PEV Approved	PEV Denied	PEV Customer Terminated	PEV System Terminated
Interim Model 1	2,774*	48	2,726	787	82	80	1,777
Interim Model 2	2,282	54	2,228	585	42	41	1,560
Interim Model 1			100%	29%	3%	3%	65%
Interim Model 2			100%	26%	2%	2%	70%

* Random sample from 10,429 New Enrollments and Recertified customers with probability score <30% using Interim Model 1.

Results in the tables above give insights into the percentage of customers likely to be de-enrolled from the program (roughly 74% and 71%) if selected for PEV using Model 2 and Model 1, respectively.

Expenditures

SoCalGas' incremental expenditure from developing the Interim Models was approximately $36,000. A consultant was contracted by SoCalGas to supplement the PEV selection process

was at $11,160 up to July 2013 invoice. Project management and the PEV mailing and process have been fulfilled by current CARE staff and therefore there is no incremental cost. The estimated average processing cost plus associated activities for returned PEVs would be adjusted for changes in postage rates, from $7.25 to $7.27. For customers who do not return PEV requests, the estimated average cost would remain at $2.40.

Proposed Long-Term Model

In compliance with OP 90 of D.12-08-044 and as evidenced by the analysis described above, the Interim Model was deployed at a reasonable rate to ensure meaningful size in sampling to yield the necessary results to aid in the development of effective long term probability models, ensure integrity of the CARE program, provide assurance the CARE discount is received by those lawfully intended to receive, remove any fraud and abuse, and properly factor in potential program disruptions and administrative costs.

Based on the results described herein, SoCalGas proposes Interim Model 2. The Interim Model 2 equation is as follows (where P = the probability of qualifying for CARE enrollment):

$$Logit(P) = -0.6884 - 0.0003*bill\_amt + 0.3708*hh\_size - 0.1409* prizm\_y1 + 0.3199* prizm\_y3 + 0.3217* prizm\_f4 - 0.0721* prizm\_m1 + 0.1106* prizm\_m4 + 0.3597*inc\_el + 0.4369*auto\_en + 0.7374*de\_enroll + 0.0003*enroll - 0.0135*SF + 0.299*Fixed\_Inc + 0.4801*Medical + 0.4635*LIHEAP + 0.465*WIC - 0.00002*income - 0.1922*pprls + 0.0766*ovd\_ntc + 0.0719*pay\_ext + 0.3954*food\_stamp$$

Proposed PEV Rate

SoCalGas proposes that customers with a calculated CARE probability less than 30% should be selected for post-enrollment verification, and SoCalGas will continue to track, monitor, and review results and adjust the Long-Term Model as necessary. Since 2008, SoCalGas' PEV approach has been applied to newly approved and recertified customers to remove the ineligible customers as early as possible. Under the same approach, 5.2% of customers approved or recertified in May and June 2013 had probability score less than 30% based on the new models and therefore will be selected for PEV.

CARE Enrollment and Recertification in May - June 2013

	Number of Customers Approved	Probability Score < 30%	
		Number of Customers	Percent of Customers
Enrollments	48,203	3,624	7.5%
Recertification	50,224	1,465	2.9%
Total	*98,427*	*5,089*	*5.2%*

Since the values shown above reflect a 2 month period, if projected, SoCalGas would perform approximately 30,534 PEVs (5,089 x 6 months). The table below shows the number of annual PEVs expressed as a percentage of the CARE population as of July 2013.

	Number of CARE Customers	Percent of CARE Customers
CARE customers as of July 2013	1,643,311	100%
PEV of new enrollment and recertified customers	30,534	~ 2%

SoCalGas proposes to perform PEVs at an annual rate of 2%, with the flexibility to adjust as needed up to 200% of this PEV rate. Note that SoCalGas issued post-enrollment verification requests to 3.6% of customers in 2011 and 3.2% of customers in 2012, so the proposed level represents a decline in testing, as accommodated by the improvements in the model.

Once the Long-Term Model has been approved, SoCalGas plans to automate the PEV selection, mailing, and tracking processes in SoCalGas' Customer Information System.

Expenditures

At present the Information Technology-related cost is estimated to be about $40,333 SoCalGas has been able to accommodate the PEV process with current resources with regards to testing the Interim and Long-Term Model. Please see Attachment F for a comparison of incremental model costs by model type and category.

If the Long-Term Model is approved and 30,000 PEVs (~ 2% annual rate) are issued, it is estimated that approximately 22,600 customers will be removed from the CARE Program per year. At an assumed customer annual benefit of $60.24, the projected first-year subsidy savings is approximately $1.36 million.

Conclusion

In compliance with Commission directives, SoCalGas has developed a Long-Term Model for post enrollment and post re-certification activities. As described herein, SoCalGas has complied with OPs 89 through 93, and OP 95 of D.12-08-044 in association with this effort. With approval of this Advice Letter, SoCalGas will do the following:

- Implement the proposed Long-Term Model for use in post enrollment and post re-certification activities. Customers with a calculated CARE probability less than 30% will be selected for post-enrollment verification.
- Continue to track, monitor, and review results and adjust the Long-Term Model as necessary.
- Perform PEV at an annual rate of 2%, with the flexibility to adjust as needed up to 200% of that level for any given year.

Protest

Anyone may protest this Advice Letter to the Commission. The protest must state the grounds upon which it is based, including such items as financial and service impact, and should be submitted expeditiously. The protest must be made in writing and received within 20 days of the date of this Advice Letter, which is September 23, 2013. There is no restriction on who may file a protest. The address for mailing or delivering a protest to the Commission is:

CPUC Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102

A copy of the protest should also be sent via e-mail to the attention of the Energy Division Tariff Unit (EDTariffUnit@cpuc.ca.gov). A copy of the protest should also be sent via both e-mail and facsimile to the address shown below on the same date it is mailed or delivered to the Commission.

Attn: Sid Newsom
Tariff Manager - GT14D6
555 West Fifth Street
Los Angeles, CA 90013-1011
Facsimile No. (213) 244-4957
E-mail: snewsom@SempraUtilities.com

Effective Date

SoCalGas believes that this filing is subject to Energy Division disposition and, as directed in D.12-08-044 OP 95, is a Tier 2 (effective after staff approval). SoCalGas respectfully requests that this filing be approved and made effective on October 3, 2013, which is 30 days from the date filed.

Notice

A copy of this advice letter is being sent to the parties listed on Attachment A, which includes the service list for A.11-05-018.

_____
Rasha Prince
Director – Regulatory Affairs

Attachments

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY
ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No. SOUTHERN CALIFORNIA GAS COMPANY (U 9O4G)

Utility type: ☐ ELC ☒ GAS ☐ PLC ☐ HEAT ☐ WATER	Contact Person: Sid Newsom Phone #: (213) 244-2846 E-mail: SNewsom@semprautilities.com
EXPLANATION OF UTILITY TYPE ELC = Electric GAS = Gas PLC = Pipeline HEAT = Heat WATER = Water	**(Date Filed/ Received Stamp by CPUC)**

Advice Letter (AL) #: 4537

Subject of AL: D.12-08-044, Ordering Paragraph (OP) 95 Tier 2 Advice Letter Proposing Long-Term Probability Model

Keywords (choose from CPUC listing): CARE

AL filing type: ☐ Monthly ☐ Quarterly ☐ Annual ☒ One-Time ☐ Other _____

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #:

D.12-08-044

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL   No

Summarize differences between the AL and the prior withdrawn or rejected AL[1]: N/A

Does AL request confidential treatment? If so, provide explanation: No

Resolution Required? ☐ Yes ☒ No   **Tier Designation:** ☐ 1 ☒ 2 ☐ 3

Requested effective date: 10/3/13   **No. of tariff sheets:**   0

Estimated system annual revenue effect: (%): _____

Estimated system average rate effect (%): _____

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: None

Service affected and changes proposed[1]   See Advice Letter

Pending advice letters that revise the same tariff sheets: None

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division	Southern California Gas Company
Attention: Tariff Unit	Attention: Sid Newsom
505 Van Ness Ave.,	555 West 5th Street, GT14D6
San Francisco, CA 94102	Los Angeles, CA 90013-1011
EDTariffUnit@cpuc.ca.gov	SNewsom@semprautilities.com
	tariffs@socalgas.com

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[1] Discuss in AL if more space is needed.

ATTACHMENT A

Advice No. 4537

(See Attached Service Lists)

Advice No. 4537

The table below depicts the annual number of customers exempt from PEV due to passing the probability model verification from 2009-2012.

Year	Selected to Verify	Requested to Verify	Exempt due to Probability Model	% Verified by Probability Model
2009	92,700	50,001	42,699	46.1%
2010	104,063	60,117	43,946	42.2%
2011	101,038	62,285	38,753	38.4%
2012	83,220	52,147	31,073	37.3%
Average	381,021	224,550	156,471	41.1%

In addition, the tables below depict the monthly number of customers exempt from PEV due to passing the probability model verification from 2009-2012.

Year 2009	Selected to Verify	Requested to Verify	Exempt due to Probability Model	% Verified by Probability Model
January	8,297	5216	3,081	37.1%
February	7,961	4744	3,217	40.4%
March	8,883	4306	4,577	51.5%
April	7,914	3854	4,060	51.3%
May	7,040	3952	3,088	43.9%
June	7,492	4654	2,838	37.9%
July	8,067	4766	3,301	40.9%
August	7,838	3564	4,274	54.5%
September	7,167	3677	3,490	48.7%
October	7,691	3896	3,795	49.3%
November	6,651	3601	3,050	45.9%
December	7,699	4119	3,580	46.5%
Average	92,700	50,349	42,351	45.7%

Year 2010	Selected to Verify	Requested to Verify	Exempt due to Probability Model	% Verified by Probability Model
January	6,566	3893	2,673	40.7%
February	6,836	3891	2,945	43.1%
March	8,389	4823	3,566	42.5%
April	8,913	5356	3,557	39.9%

Year 2010	Selected to Verify	Requested to Verify	Exempt due to Probability Model	% Verified by Probability Model
May	7,690	4623	3,067	39.9%
June	8,480	5174	3,306	39.0%
July	8,951	5032	3,919	43.8%
August	9,132	4780	4,352	47.7%
September	9,483	5612	3,871	40.8%
October	10,904	6456	4,448	40.8%
November	9,926	5746	4,180	42.1%
December	8,793	4796	3,997	45.5%
Average	*104,063*	*60,182*	*43,881*	*42.2%*

Year 2011	Selected to Verify	Requested to Verify	Exempt due to Probability Model	% Verified by Probability Model
January	7,367	4278	3,089	41.9%
February	7,351	4419	2,932	39.9%
March	10,495	6766	3,729	35.5%
April	9,294	6045	3,249	35.0%
May	8,781	5575	3,206	36.5%
June	8,948	5553	3,395	37.9%
July	7,942	4846	3,096	39.0%
August	8,862	5329	3,533	39.9%
September	8,181	5182	2,999	36.7%
October	8,142	5109	3,033	37.3%
November	7,424	4418	3,006	40.5%
December	8,251	4798	3,453	41.8%
Average	*101,038*	*62,318*	*38,720*	*38.3%*

Year 2012	Selected to Verify	Requested to Verify	Exempt due to Probability Model	% Verified by Probability Model
January	7,512	4631	2,881	38.4%
February	7,890	4883	3,007	38.1%
March	9,489	5923	3,566	37.6%
April*	416	416	0	0.0%
May*	452	452	0	0.0%
June	7,056	4134	2,922	41.4%

Year 2012	Selected to Verify	Requested to Verify	Exempt due to Probability Model	% Verified by Probability Model
July	8,336	4522	3,814	45.8%
August	9,476	5987	3,489	36.8%
September	7,058	4549	2,509	35.5%
October	10,598	7390	3,208	30.3%
November	7,624	4713	2,911	38.2%
December	7,313	4587	2,726	37.3%
Average	*83,220*	*52,187*	*31,033*	*37.3%*

* Due the new income guideline f or one person household, the selection was temporarily suspended and resumed on June 1st.

The table below depicts the annual rate of customers who were removed from the program due to non-response or ineligibility. PEV rates from the Interim Model are described within its respective section herein:

Year	Total CARE Population as of December	Participants Requested to Verify	% of Population Total	Participants Dropped (Due to no response)	Participants Dropped (Verified as Ineligible)	Total Dropped	% Dropped through Random Verification	% of Total Population Dropped
2009	1,560,543	50,001	3.2%	24,402	1,764	26,166	52.3%	1.8%
2010	1,714,044	60,117	3.5%	32,405	2,316	34,721	57.8%	2.0%
2011	1,716,495	62,285	3.6%	31,702	2,222	33,924	54.5%	2.0%
2012	1,649,360	52,147	3.2%	28,479	2,271	30,750	59.0%	1.9%

Of the 52,147 customers to which SoCalGas sent verification requests in 2012, 21,397 were successfully verified based on documents provided, and 30,750 were de-enrolled because they were verified as ineligible or did not respond to the verification request. Of the customers de-enrolled, 28,479 were due to non-response, 1,247 deemed ineligible, and 1,024 from the program per customer's request.   Of the 21,397 customers successfully verified based on documents received, 52% were income eligible, 41% were categorically eligible, and 7% were enrolled via automatic enrollment.

With respect to OP 92 of D.12-08-044, as shown in the "% of Population Total" column above, SoCalGas did not exceed 200% of its 2011 post enrollment verification rate in setting its Interim Model rate in comparison to the Vintage Model rate.

The tables below depict the monthly rate of customers who were removed from the program due to non-response or ineligibility.

Year 2009	Total CARE Population	Participants Requested to Verify	% of Population Total	Participants Dropped (Due to no response)	Participants Dropped (Verified as Ineligible)	Total Dropped	% Dropped through Random Verification	% of Total Population Dropped
January	1,441,382	5,208	0.36%	2,558	159	2,717	52%	0.19%
February	1,450,810	4,742	0.33%	2,460	148	2,608	55%	0.18%
March	1,458,525	4,006	0.27%	2,034	136	2,170	54%	0.15%
April	1,481,315	3,851	0.26%	1,822	173	1,995	52%	0.13%
May	1,493,227	3,944	0.26%	1,877	160	2,037	52%	0.14%
June	1,494,052	4,651	0.31%	2,115	166	2,281	49%	0.15%
July	1,510,316	4,760	0.32%	2,243	163	2,406	51%	0.16%
August	1,520,244	3,560	0.23%	1,822	123	1,945	55%	0.13%
September	1,531,174	3,672	0.24%	2,007	139	2,146	58%	0.14%
October	1,534,382	3,892	0.25%	2,190	135	2,325	60%	0.15%
November	1,542,309	3,598	0.23%	1,825	107	1,932	54%	0.13%
December	1,560,543	4,117	0.26%	1,449	155	1,604	39%	0.10%
Total for 2009	1,560,543	50,001	3.20%	24,402	1,764	26,166	52%	1.79%

Year 2010	Total CARE Population	Participants Requested to Verify	% of Population Total	Participants Dropped (Due to no response)	Participants Dropped (Verified as Ineligible)	Total Dropped	% Dropped through Random Verification	% of Total Population Dropped
January	1,571,380	3,891	0.25%	2,205	173	2,378	61%	0.15%
February	1,573,709	3,889	0.25%	2,225	102	2,327	60%	0.15%
March	1,584,793	4,813	0.30%	2,357	182	2,539	53%	0.16%
April	1,614,136	5,351	0.33%	3,013	235	3,248	61%	0.20%
May	1,633,528	4,622	0.28%	2,758	200	2,958	64%	0.18%
June	1,656,356	5,172	0.31%	2,894	222	3,116	60%	0.19%
July	1,676,643	5,030	0.30%	2,679	175	2,854	57%	0.17%
August	1,689,241	4,777	0.28%	2,536	233	2,769	58%	0.16%
September	1,685,144	5,612	0.33%	2,771	205	2,976	53%	0.18%
October	1,697,404	6,439	0.38%	3,371	230	3,601	56%	0.21%
November	1,707,036	5,731	0.34%	3,085	195	3,280	57%	0.19%
December	1,714,044	4,790	0.28%	2,511	164	2,675	56%	0.16%
Total for 2010	1,714,044	60,117	3.51%	32,405	2,316	34,721	58%	2.03%

Year 2011	Total CARE Population	Participants Requested to Verify	% of Population Total	Participants Dropped (Due to no response)	Participants Dropped (Verified as Ineligible)	Total Dropped	% Dropped through Random Verification	% of Total Population Dropped
January	1,720,017	4,278	0.25%	2,204	165	2,369	55%	0.14%
February	1,707,674	4,419	0.26%	2,299	137	2,436	55%	0.14%
March	1,721,214	6,763	0.39%	3,280	236	3,516	52%	0.20%
April	1,736,826	6,041	0.35%	3,044	240	3,284	54%	0.19%
May	1,742,220	5,570	0.32%	2,828	172	3,000	54%	0.17%
June	1,738,557	5,551	0.32%	2,976	176	3,152	57%	0.18%
July	1,715,174	4,842	0.28%	2,467	156	2,623	54%	0.15%
August	1,719,024	5,328	0.31%	2,739	173	2,912	55%	0.17%
September	1,712,955	5,180	0.30%	2,678	227	2,905	56%	0.17%
October	1,718,091	5,105	0.30%	2,841	210	3,051	60%	0.18%
November	1,708,535	4,415	0.26%	2,388	148	2,536	57%	0.15%
December	1,716,495	4,793	0.28%	1,958	182	2,140	45%	0.12%
Total for 2011	1,716,495	62,285	3.63%	31,702	2,222	33,924	54%	1.98%

Year 2012	Total CARE Population	Participants Requested to Verify	% of Population Total	Participants Dropped (Due to no response)	Participants Dropped (Verified as Ineligible)	Total Dropped	% Dropped through Random Verification	% of Total Population Dropped
January	1,712,826	4,630	0.27%	2,386	215	2,601	56%	0.15%
February	1,711,911	4,882	0.29%	2,457	205	2,662	55%	0.16%
March	1,698,200	5,923	0.35%	3,043	220	3,263	55%	0.19%
April	1,703,693	412	0.02%	34	6	40	10%	0.00%
May	1,721,081	451	0.03%	34	9	43	10%	0.00%
June	1,719,356	4,126	0.24%	2,589	170	2,759	67%	0.16%
July	1,715,366	4,517	0.26%	2,479	171	2,650	59%	0.15%
August	1,713,798	5,984	0.35%	3,414	280	3,694	62%	0.22%
September	1,709,377	4,548	0.27%	2,659	197	2,856	63%	0.17%
October	1,675,302	7,378	0.44%	4,585	435	5,020	68%	0.30%
November	1,678,339	4,710	0.28%	2,913	162	3,075	65%	0.18%
December	1,649,360	4,586	0.28%	1,886	201	2,087	46%	0.13%
Total for 2012	*1,649,360*	*52,147*	*3.16%*	*28,479*	*2,271*	*30,750*	*59%*	*1.86%*

Attachment D-1

Advice No. 4537

The table below represents an additional data analysis for a random sample of customers who were sent a PEV in 2011. The goal of the analysis was to understand eligibility types and enrollment sources.

Sample of PEV customers by Enrollment Type in 2011

	PEV Approved	PEV Terminated	PEV Denied	Customers not selected for PEV*
Customer Count	22,627	27,421	1,120	22,298
Enrollment by Eligibility Type				
a) Income Eligible	43.6%	28.0%	58.9%	28.3%
b) Categorical Eligible	33.3%	24.1%	7.3%	39.1%
c) Automatic Enrolled	23.1%	47.9%	33.8%	32.7%
Total	*100.0%*	*100.0%*	*100.0%*	*100.0%*
Enrollment by Source				
a) Customers	45.0%	34.4%	27.8%	41.8%
b) Leverage	18.2%	21.5%	25.1%	24.1%
c) Integration	0.2%	0.3%	0.5%	1.3%
d) Bill Insert	7.1%	6.4%	10.3%	4.1%
e) Direct Mailing	5.3%	8.5%	11.9%	5.6%
f) Phone	1.5%	1.9%	2.5%	1.5%
g) Web	16.8%	15.9%	14.6%	7.3%
h) CBO's	0.6%	1.0%	1.0%	0.9%
i) Door-to-Door	0.9%	4.8%	2.4%	4.0%
j) Other	4.4%	5.3%	3.9%	9.4%
Total	*100.0%*	*100.0%*	*100.0%*	*100.0%*

* Random sample of customers were not selected for PEV

Attachment D-2

Advice No. 4537

The table below represents an additional data analysis for a random sample of customers who were sent a PEV in 2012. The goal of the analysis was to understand eligibility types and enrollment sources.

Sample of PEV customers by Enrollment Type in 2012

	PEV Approved	PEV Customer Terminated	PEV Denied	PEV No-response
Customer Count	18,056	942	1,072	25,243
Enrollment by Eligibility Type				
a) Income Eligible	52.0%	19.3%	71.4%	41.0%
b) Categorical Eligible	40.6%	6.9%	4.3%	31.3%
c) Automatic Enrolled	7.4%	73.8%	24.3%	27.7%
Total	*100.0%*	*100.0%*	*100.0%*	*100.0%*
Approval Source				
a) Customers	34.3%	17.5%	30.8%	29.4%
b) Leverage	18.9%	27.7%	22.1%	19.7%
c) Integration	1.2%	2.9%	1.3%	2.2%
d) Bill Insert	6.6%	8.0%	8.4%	5.4%
e) Direct Mailing	7.5%	13.3%	11.7%	12.2%
f) Phone	3.5%	6.7%	3.9%	3.3%
g) Web	16.1%	12.4%	12.6%	15.0%
h) CBO's	0.6%	0.6%	0.4%	0.5%
i) Door-to-Door	1.1%	4.7%	2.4%	4.7%
j) Others - RT and other	10.2%	6.2%	6.4%	7.6%
Total	*100.0%*	*100.0%*	*100.0%*	*100.0%*

Attachment E

Advice No. 4537

Primary Factor	PEV Terminated	PEV Approved	PEV Denied	Verified by Model	Sample of Customers Never Verified
Sample Count	27,421	22,627	1,120	7,702	22,298
1) Over 400% Baseline Indicator (0/1)	8.15%	7.18%	8.04%	3.66%	5.74%
2) Average 2011 Bill Amount	$364.64	$326.46	$394.80	$261.03	$269.84
3) Average Number in Household	3.78	3.42	3.11	3.55	3.48
4) Prizm Codes					
a) low (codes 40 - 66) indicator (0/1)	10.29%	10.83%	8.04%	83.43%	43.17%
b) medium (codes 15 - 39) indicator (0/1)	60.97%	59.16%	55.63%	14.31%	38.73%
c) high (codes 1 - 14) indicator (0/1)	26.62%	27.58%	34.11%	0.12%	15.77%
d) no PRIZM code in data warehouse indicator (0/1)	2.13%	2.42%	2.23%	2.14%	2.33%
5A) Enrollment Method					
a) Income Eligible indicator (0/1)	28.03%	43.57%	58.93%	30.13%	28.25%
b) Categorical Eligible indicator (0/1)	24.16%	33.33%	7.32%	29.14%	39.06%
c) Automatic Enrolled indicator (0/1)	47.80%	23.10%	33.75%	40.73%	32.69%
5B) Enrollment Method					
a) Customers indicator (0/1)	34.44%	44.97%	27.77%	50.68%	41.81%
b) Leverage indicator (0/1)	21.49%	18.23%	25.09%	12.21%	24.07%
c) Integration indicator (0/1)	0.34%	0.24%	0.54%	1.16%	1.34%
d) Bill Insert indicator (0/1)	6.39%	7.06%	10.27%	3.88%	4.07%
e) Direct Mailing indicator (0/1)	8.50%	5.25%	11.88%	7.67%	5.62%
f) Phone indicator (0/1)	1.85%	1.53%	2.50%	2.91%	1.52%
g) Web indicator (0/1)	15.88%	16.75%	14.64%	4.36%	7.32%
h) CBO's indicator (0/1)	1.04%	0.65%	0.98%	1.91%	0.92%
i) Door-to-Door indicator (0/1)	4.77%	0.92%	2.41%	8.83%	4.04%
j) Others indicator (0/1)	5.30%	4.40%	3.93%	6.40%	9.27%
6) Customer Ineligibility in past 24 months Indicator (0/1)	4.11%	0.77%	100.00%	0.09%	0.40%
7) Customer de-enroll in past 24 months Indicator (0/1)	100.00%	12.73%	4.20%	0.70%	3.77%
8) Average date of Program Enrollment	9/4/2010	5/27/2009	7/15/2010	5/11/2008	1/29/2010
9) Average date of Recent Income Verification	3/7/2012	8/10/2011	12/2/2011	9/7/2011	1/29/2012
9a) Recent Income Verification Indicator (0/1)	12.26%	100.00%	8.48%	2.18%	1.94%

PEV Model Incremental Costs by Model Type and Category

MODEL	Development Costs	IT Implementation Costs	Analysis Costs	Cost / PEV **
Vintage Model	$36,345	$22,427	*	$7.25/ $2.40
Interim Model	$35,925	$0.00	$11,160	$7.27 $2.40
Long-Term Model		$40,333		

* Data analysis cost was included in the development cost as part of a contracted consulting service.

** Cost / PEV value reflects estimated costs for returned PEV and not returned PEV, respectively. The difference shown between the Interim Model and Vintage Model reflects changes in postal charges only; other costs held consistent.