

Decision 89 09 090

SEP 27 1989

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Lawrence M. Folts,

Complainant,

vs.

Pacific Gas and Electric Company,

Defendant.

Case 89-03-007
(Filed March 7, 1989)

Lawrence M. Folts, for himself, complainant.
Barbara S. Benson, for Pacific Gas and
Electric Company, defendant.

OPINION

On March 7, 1989, Lawrence M. Folts filed this complaint against Pacific Gas and Electric Company (PG&E) alleging that PG&E had wrongly backbilled him for electric and gas service. Complainant states that he did not use the energy for which he was backbilled and that, in any case, PG&E cannot collect for underbilled usage beyond three years.

PG&E filed an answer to Folt's complaint on April 10, 1989, denying complainant's allegations. Informal resolution of this matter with Commission staff was unsuccessful. Accordingly, the matter went to hearing on June 2, 1989. The matter was submitted on July 11, 1989. This decision finds that PG&E should reduce its backbillings to Folts from a total of \$3,841.34 to \$88.37 for electricity and \$25.96 for gas.

I. Positions of the Parties

A. PG&E

PG&E states that Folts began receiving gas and electric service from PG&E in mid-1977. On January 27, 1987, PG&E's meter reader reported evidence of meter tampering at the Folts residence. PG&E began an investigation of possible tampering and of actual energy usage.

PG&E's revenue protection representative, Jerry Fuhrmann, undertook the investigation. On the subject of meter tampering evidence, Fuhrmann testified that:

- o He found evidence of tampering on the gas meter, including damage to the gas index cover screws;
- o He found evidence of tampering on the electric meter, including alterations on the outer seal, a missing inner seal, and damage to the recording hands;
- o Both the gas and electric meters were in good condition when they were installed at the Folts residence. The gas meter was installed December 1979. The electric meter was installed March 1977;
- o During the course of his investigation, both the electric and gas meters had negative readings;
- o Meter tampering in this case could have gone undetected for many years since external evidence of tampering was well-concealed;
- o Folts had an erratic pattern of gas usage over the backbilling period, indicating that the gas meter had been set back on numerous occasions; and
- o Folts' usage decreased after the meters were changed and securely sealed and that decreased consumption is typical after a customer becomes aware that PG&E suspects meter tampering.

Fuhrmann was also responsible for estimating the amount of unmetered energy used by the Folts household. He estimated the gas backbill based on actual recorded usage for the 12-month period preceding May 1985, during which he believed gas consumption was being accurately recorded. The start of the backbilling period, May 1985, was estimated on the basis that recorded usage was low and erratic beginning at that point.

Fuhrmann estimated the electricity backbill using a "percentage of annual use" method. This method estimates usage based upon a customer's actual usage during a known 30-day period and a 12-month seasonal energy use pattern. The seasonal usage pattern is developed using comparable customers. Fuhrmann used five neighboring accounts for comparison purposes. The beginning of the electric backbilling period, April 1977, was the month Folts' swimming pool was installed.

B. Folts

Folts' testimony and brief states:

- o He did not tamper in any way with PG&E's meters and has no knowledge of anyone else tampering with them;
- o PG&E's employees could have caused the irregularities on the meters;
- o He stopped heating his pool the month following the month with the highest billing, the same month PG&E's backbilling period begins;
- o His bills approached \$300 for metered usage during the backbilling period, a billing that "seems unlikely" for anyone tampering with utility meters;
- o PG&E did not provide any evidence that the five neighborhood residences, used to develop comparable billing information, have loads comparable to Folts'. Many neighborhood residences are much larger than his;

- o His family works to keep down its utility bills, including limiting the use of a single pool pump to three hours a day, and using an automatic home thermostat that cools or heats his residence only five hours a day and only when the temperature falls below 69 degrees or above 85 degrees;
- o His family's conservation efforts were motivated by increases in utility rates which have occurred since 1978; and
- o PG&E's decision to backbill over a ten-year period is contrary to Commission policy and was undertaken to "hide the fact that utility usage was not abnormal or unmetered."

II. Utility Backbilling Limitations

Folts argues that even if he had been incorrectly billed for past energy usage, PG&E's tariffs limit the period for which it may backbill its customers. Folts believes PG&E may collect for up to three years of past usage in most circumstances, or up to three months when the utility determines meter error.

PG&E denies that it is prohibited from backbilling beyond three years. Rather, the Commission will only order recovery as a matter of policy. PG&E requests a finding that Folts received unmetered energy beyond the Commission's three-year limitation.

We addressed the issue of appropriate backbilling periods and procedures in Decision (D.) 86-06-035. We determined that when a matter is brought before the Commission, we would only consider backbilling for a three-year period in energy complaint cases. We stated that the utilities may have additional recourse before the courts and that we did not intend to limit collections related to such actions for backbilling beyond the three-year period. We also found that a reasonable period of limitation where residential meter error has occurred to be three months.

Consistent with the policy set forth in D.86-06-035, we will not make any determinations beyond the three-year period.

III. Evidence of Energy Diversion

During hearings, PG&E focused on evidence which would demonstrate meter tampering. Its witness, an energy diversion investigator, testified that he began an investigation of meter tampering at the Folts residence after a meter reader informed him that the gas and electric meters appeared to have been tampered with. PG&E first tested the meters and found them to be operating properly. It then began an investigation to determine whether the meters had been subject to tampering.

PG&E presented photographs of complainant's gas and electric meters which showed numerous irregularities in the condition of operating parts. For example, screws appeared to have abnormal levels of wear. Meter dials had finger prints on them. PG&E did not provide evidence to show that complainant had caused these irregularities. It did argue, however, that notwithstanding the source of meter tampering, it had underbilled Folts over a nine-year period for electric service, and a two-year period for gas service.

Folts stated emphatically that he did not tamper with PG&E's gas and electric meters, and argued that the meters' irregularities could have been caused by either a PG&E employee or by a prior customer who lived at his residence.

We believe energy diversion is a serious problem in California. Energy theft is a crime, and costs the general body of ratepayers millions of dollars. Accordingly, we have encouraged the utilities to establish aggressive programs to discourage and identify energy diversion by customers.

We developed guidelines on the issue of energy diversion in D.86-06-035, where we stated generally that this Commission does

not determine in cases such as this the guilt or innocence of a utility customer. Our main concern is to determine whether the utility backbill is appropriate and correctly calculated. D.86-06-035 states:

"Whether tampering or energy diversion was performed by the customer is not the issue. The issue is whether the customer benefited from unmetered energy regardless of whether or not there was meter tampering or energy diversion and regardless of who performed any tampering or energy diversion."

PG&E has demonstrated that complainant's gas and electric meters have been handled in irregular ways. The evidence provided by PG&E did not demonstrate that meter tampering necessarily occurred during the period in question, although we address the issue of appropriate billings more fully in Section IV of this decision. PG&E does not specifically claim that complainant diverted energy from PG&E by tampering with the meters. In any event, we need not rule on whether Folts diverted energy. We need only determine whether PG&E's backbills are a reasonable estimate of energy used by Folts during the period in question.

IV. The Reasonableness of PG&E's Backbills

In prior decisions addressing issues of this kind, we have found that, notwithstanding whether energy has been diverted, customers should pay for any energy from which they have benefited. We have generally looked to patterns of use before and during the backbilling period. For instance, in D.87-07-074, we found that complainant's metered usage had dropped so significantly from the period prior to the backbilling period that she had received the benefit of unmetered energy. Similarly in this case, we consider patterns of use in determining whether Folts received unmetered energy during the periods in question.

Both Folts and PG&E provided information regarding amounts originally billed by PG&E and backbilled by PG&E for gas and electric service. PG&E backbilled Folts \$3,123.74 for electric service over a nine-year period, from April 1978 to June 1987. It backbilled Folts \$717.60 for gas service over a two-year period, from June 1985 to March 1987.

PG&E's witness also provided tables which show Folts' billed usage before, during, and after the period of backbilling. He believes that usage went down after the backbilling period because customers often reduce their usage after energy diversion is discovered in order to obfuscate past activity.

We have considered the billing information provided by the parties. We note that Folts' metered gas and electricity use over the period in question shows some significant month-to-month variations. These variations could result from meter tampering, periods when meter readers did not check the meters, misreadings, or usage variations resulting from weather patterns or customer decisions (e.g., a decision by Folts not to heat his swimming pool). To correct for these variations, we considered averaged billing information in determining whether Folts' metered energy usage was realistic under the circumstances.

A. Electricity Usage

We first consider electricity usage. Appendix A shows the average daily use by month and year (rounded to the nearest kilowatt hour) for the period beginning April 1977 and ending March 1989 for billed and metered electric use. The data is broken down for the periods before, during, and after backbilling.

In every month but September, billed usage was higher during the backbilling period than before or after that period. During January, average usage during the backbilled period is slightly lower than the period before the backbilled period but higher than usage during the subsequent period. For the total backbilling period, Folts' average metered usage was 31 kilowatt

hours (kWh) per day, compared to 27 kWh before the period in question and 25 kWh after.

PG&E has backbilled Folts for 34,912 kWh, about 33% more than was metered during the backbilling period. PG&E's witness described how he estimated an appropriate electricity backbill. He chose five comparable customers in complainant's neighborhood to determine percentage of annual usage for each month. He then estimated Folts' usage by selecting a representative month in which he suspected no meter tampering, and applied to all months the average monthly percentage of annual use determined with comparable customer data. For electric service, he determined improper billings began during the month when Folts installed a swimming pool on his premises. PG&E's witness stated he did not choose comparable customers based on comparable load, but because their monthly billings were similar to Folts' billings during periods when he suspected no meter tampering.

Folts argued that the comparable customer data are not useful because customer load data for those residences is not available. He stated that some customers may have larger houses or more appliances and that his residence is among the smallest in his neighborhood.

Discussion. The record does not show that Folts used unmetered electricity during the backbilling period. Folts' usage patterns for metered energy have been reasonable under the circumstances. The additional usage that PG&E estimates is simply unrealistic in this case.

In coming to this conclusion, we first consider the reasonableness of total usage, applying PG&E's backbilled amounts to metered usage. Adding the backbilled amount to the total average metered usage during the backbilling period results in daily average usage of over 41 kWh. We do not believe this is a realistic estimate of Folts' usage during the period in question since it is 64% more than Folts' average usage during the two years

following the backbilling period and 52% more than average usage during the year previous to the backbilling period. Using PG&E's numbers, we would have to assume that Folts reduced his electrical usage by about 40% over a two-year period in an attempt to avoid detection as an energy diverter. Such a reduction seems implausible in this case.

Folts' electricity usage is likely to have increased because he installed a swimming pool. We cannot assume, however, that the operation of an electric pump would have increased electrical use by 52%, or 14 kWh per day, since Folts testified that he has a single pump which operates three hours a day. After the installation of the pool, Folts' metered electricity increased on average by 15%, or 4 kWh. This increase is reasonable under the circumstances.

As a check on the foregoing analysis, Appendix B compares the average monthly usage of the five neighboring customers with Folts' average usage over the backbilling period. In some months, Folts' usage exceeds that of the comparable customer group and in some months it is lower. Folts' average yearly usage is about 10% lower than the average for the comparable customer group, and higher than one customer in that group (Exhibit 5). Adding 33%, as PG&E did, to Folts' metered usage would place his average annual use at 15,208 kWh. This amount is higher than any of the five comparable customers, and much higher than the average of 12,713 kWh.

We recognize that PG&E did not present the comparable usage figures for the purpose of actually comparing usage, but rather to establish Folts' monthly usage patterns. Under our energy diversion guidelines, however, PG&E should have provided comparable usage data for the purpose of determining expected usage of the complainant. (D.87-07-074, pp. 8-9.)

We also comment on PG&E's use of its "percentage of annual use method." This method applies a twelve month seasonal

usage pattern developed from an analysis of the usage patterns of comparable customers to a single month of nontampered actual usage by the backbilled customer in order to develop an estimated base year from which an overall backbill can be derived. Here, PG&E chose February 1987 as the base month, and developed a three-year backbill of 12,269 kWh. PG&E stated that the billing period from March 31 to April 27, 1987 also appeared to represent nontampered usage by Folts. If PG&E had used April 1987 as the base month, it would have developed a three-year backbill of approximately 5,645 kWh.¹ This is 54% less than the back bill based on February 1987 usage. Under PG&E's Estimated Annual Usage Computation Instructions, either month could have been chosen. We find that PG&E's "percentage of annual use" backbilling method is extremely sensitive to the base month chosen.

Additionally, we note that PG&E backbilled Folts for April 1987 usage based on the percent of annual use method even though PG&E testified that there did not appear to be any tampering during this period. This added 147 kWh to Folts' backbill.

We make these comments to demonstrate the shortcomings of the percentage of annual use backbilling method. The sensitivity of this method to the actual use base month chosen suggests that backbills based on a single month of actual use may not accurately reflect the electricity received by the backbilled customer. The subjectivity of this estimating technique argues strongly in favor

1 In our calculations using April 1987 as the base month, we established a daily average use by month for an estimated base year, and multiplied the daily average for each month of the base year by the number of days in the actual billing cycle during each corresponding month of the backbill period. We did not use the actual usage figure where it exceeded the estimate, as did PG&E. Thus, our results may differ slightly from those PG&E would derive from an April 1987 base month. We also note that we used a 37-month backbill period in order to match that used by PG&E.

of using several methods to determine appropriate backbills. We will, in future complaint cases of this kind, make sure that backbills are based on appropriate backbill estimating methods fairly applied to the circumstances in question.

Finally, we consider the record of field calls (Exhibit 6) made by PG&E during its meter diversion investigation at the Folts' residence. Appendix D provides PG&E's record of field calls made during its investigation in 1987. The metered usage during that four-month period does not show unusual variations in usage with two exceptions. On March 11, the meter showed signs of irregular handling and usage appeared low on a visit immediately following a visit by meter reader. On May 28, the meter had been turned back. That reading was one of the few taken by the meter reader, not PG&E's investigator over the period of investigation. The meter had been turned back about 4,000 kWh, about four months worth of usage. Further, this negative reading is the only one to have been observed on the electric meter over the nine-year period in question.

It is implausible to us that a person who is alleged to have tampered undetected with a meter for a nine-year period would be so bold or careless as to move the meter back 4,000 kWh. In consideration of these observations and because the pattern of Folts' metered electrical use was not otherwise unusual, we will discount the implications of that negative meter reading as it affects Folts' case.

In sum, we cannot find PG&E's estimates of Folts' electric usage are reasonable for the reasons discussed above. Folts' electric usage during the backbilling period appears to be consistent with usage before and after the backbilling period, considering the installation of a pool.

Folts' electric meter appears to have been subject to unusual handling. We conclude, however, that such handling did not result in unmetered energy except for the period in May 1987 when,

during the period of investigation, the meter registered negative. We will require complainant to pay for electrical usage for that month based on the average of the previous four May usage levels, or a total backbill for electricity of \$88.37 (853 KWh x \$.1036).

B. Gas Usage

We next considered gas usage. Appendix C shows data for complainant's gas usage. During nine out of twelve months, metered usage is significantly lower during the backbilling period than before it. It is considerably higher in most months during the backbilling period than after, with the exceptions being January and March. On average, the metered amounts during the backbilling period are 34% lower than during the period prior and 32% higher than usage after the backbilling period.

Folts' gas usage during the backbilled period appears to have been, in some specific months and on average, significantly lower than usage prior to that period. Folts testified that he stopped heating his pool in 1985. He pointed out that gas usage during the backbilling period is comparable to the period prior to the installation of the pool in spring of 1978.

Discussion. We believe Folts' explanation of the variation in gas usage is reasonable, that is, that his gas usage declined because he stopped heating his swimming pool.

The record shows that Folts' average metered usage during the months for which PG&E backbilled is comparable to usage for the year prior to the installation of the pool. Therefore, we will not find that Folts used unmetered gas during the backbilling period, except as discussed below.

We comment on PG&E's estimating method for unmetered gas. In D.86-06-035 we stated our intent to use alternative methods for calculating backbilling "for use in cases where no reliable data is available or as a cross-check of the results of the standard methodology." In this case, PG&E did not have specific load data.

Accordingly, it should have provided some information which would permit a cross-check of its estimate. At the very least, it should have provided usage information for comparable customers in Folts' neighborhood, as required by our energy diversion guidelines, adopted in November 1986 and cited in D.87-07-074.

Even if we had found in this case that Folts was likely to have used unmetered energy during the backbilling period, we would have hesitated to permit PG&E to backbill for unused energy lacking good information about probable levels of usage. Further, we believe that instead of using a single year's data to estimate backbills, an average of several years is more appropriate. Using an average of several years will correct for wide variations in annual usage which might occur due to weather or other factors. PG&E should adhere to our energy diversion guidelines in future cases.

Finally, we note that PG&E's record of its field investigations (Exhibit 6) shows that the investigator reported a negative gas reading on a visit immediately following a visit by the meter reader about two months into the investigation. (See Appendix D.) At no other time had the gas meter been reported to have registered negative. For that reason, and because we find Folts' gas usage to be reasonable, we will discount the implications of this reading.

To assure that PG&E is reimbursed for total gas usage during the month when the gas meter registered negative, we will require complainant to pay for additional gas usage for that month. The backbill amount is based upon the difference between the amount billed (for usage during the period after the meter registered negative) and the daily average usage of 3.8 therms which registered over the course of the month. The total backbilled amount for gas is \$25.96 (1.6 therms x 32 days x \$.507).

Findings of Fact

1. PG&E backbilled complainant in the amount of \$3,123.74 for electrical service between April 1978 and June 1987. It backbilled complainant in the amount of \$717.60 for gas service between June 1985 and March 1987.

2. In January 1987, PG&E initiated an investigation of energy diversion at the Folts residence after a meter reader reported possible meter tampering.

3. PG&E's tests for complainants' gas and electric meters showed that they were neither fast nor slow at the time they were tested.

4. PG&E demonstrated that the gas and electric meters at the Folts residence showed signs of irregular handling.

5. PG&E did not assert that a member of the Folts household tampered with the gas or electric meters at the Folts residence.

6. PG&E's estimates of unmetered electric usage are approximately 64% higher than average metered usage after the backbilling period and 54% higher than average metered usage the year prior to the backbilling period.

7. Folts' average metered electricity usage during the backbilling period is 24% higher than average usage levels after the backbilling period and 15% higher than average usage levels during the year prior to the backbilling period.

8. Backbilled amounts plus metered amounts provides an estimate of total electric usage that is significantly higher than the average usage of comparable customers and higher than the average use of any comparable customer.

9. Folts' metered electricity usage increased, on average, 15% after installation of a swimming pool.

10. PG&E has not demonstrated that the backbilled amounts for electricity are reasonable or that Folts received the benefits of unmetered electricity, except in the month of May 1987 when the electric meter registered negative.

11. PG&E's estimates of unmetered gas usage are approximately twice as high as the metered usage after the backbilling period and equal to the metered usage during the year prior to the backbilling period.

12. Folts testified that he stopped heating his swimming pool at the onset of the backbilling period.

13. Gas usage in the year prior to the installation of the swimming pool is comparable to usage during the backbilling period.

14. Folts does not appear to have received the benefit of unmetered gas during the backbilling period, assuming that he stopped heating his swimming pool during that period.

15. During the period when PG&E investigated Folts' gas and electric meters, each meter registered negative once. The electric meter registered negative during a call by a meter reader. The gas meter registered negative during a call by the investigator, immediately following a visit by a meter reader.

16. Neither the gas nor the electric meter at the Folts' residence registered negative during the backbilling period or any other period for which information is available.

17. Folts received the benefit of some unmetered gas during the month of March 1987, when the gas meter registered negative.

18. The Commission's energy diversion guidelines require the utilities to develop estimates of unmetered energy by using average monthly consumption of five or more residences in the vicinity of the site of unauthorized use. PG&E did not provide such information for gas use at the hearing and did not use such information in developing an estimate for unmetered gas use.

Conclusions of Law

1. The Commission does not consider backbilled amounts exceeding three years, pursuant to D.86-06-035.

2. The Commission does not determine the innocence or guilt of utility customers in cases where energy diversion is at issue,

pursuant to D.86-06-035. Such matters are left to the criminal courts.

3. The Commission found in D.86-06-035 that its role in backbilling complaint cases is to determine a reasonable level of energy usage for the period in question.

4. Folts' complaint should be granted, with the exception that he should be ordered to pay for unmetered energy during May 1987, when the electric meter registered negative, and during March 1987, when the gas meter registered negative. Folts should be required to pay for unmetered electricity, based on the average of his previous four May bills, or \$88.37. Folts should be required to pay for unmetered gas based on his average use during that portion of March 1987 when the meter registered gas usage, or \$25.96.

ORDER

IT IS ORDERED that:

1. Pacific Gas and Electric Company (PG&E) shall reduce the electric backbill to complainant, Lawrence M. Folts, to \$88.37.
2. PG&E shall reduce the gas backbill to complainant to \$25.96.

3. With the exceptions stated in Ordering Paragraph 1 and Ordering Paragraph 2 of this order, this complaint is granted.

This order is effective today.

Dated SEP 27 1989, at San Francisco, California.

G. MITCHELL WILK
President
STANLEY W. HULETT
JOHN B. OHANIAN
PATRICIA M. ECKERT
Commissioners

Commissioner Frederick R. Duda,
being necessarily absent, did
not participate.

I CERTIFY THAT THIS DECISION
WAS APPROVED BY THE ABOVE
COMMISSIONERS TODAY.

Wesley Franklin

WESLEY FRANKLIN, Acting Executive Director

APPENDIX A

Daily Average Electric Usage (kWh)
April 1977 - March 1989

<u>Month</u>	<u>After Backbilling Period</u>	<u>During Backbilling Period</u>	<u>Before Backbilling Period</u>
January	27	31	33
February	25	28	24
March	24	28	26
April	24	26	11
May	24	25	16
June	23	28	24
July	27	35	34
August	22	38	38
September	27	38	42
October	25	29	22
November	26	29	18
December	28	34	31
TOTAL AVERAGE	25	31	27

Source: Exhibit 8.

(END OF APPENDIX A)

APPENDIX B

Average Usage of Five Comparable Customers and Folts' Usage
During the Backbill Period (kWh)

<u>Month</u>	<u>Five Comparable Customers</u>	<u>Folts</u>
January	1178	953
February	997	858
March	1054	837
April	930	805
May	1153	749
June	1054	915
July	1184	1069
August	1081	1130
September	1088	1192
October	999	974
November	944	944
December	1051	1009
TOTAL AVERAGE	12713	11435

Source: Exhibit 5.

(END OF APPENDIX B)

APPENDIX C

Daily Average Gas Usage (therms)
March 1977 - March 1989

<u>Month</u>	<u>After Backbilling Period</u>	<u>During Backbilling Period</u>	<u>Before Installation of Pool</u>
January	4.8	3.3	5.5
February	3.7	4.4	5.0
March	2.6	2.6	6.3
April	2.2	2.3	3.1
May	1.5	2.7	2.7
June	1.0	1.8	1.9
July	0.8	1.3	1.1
August	0.8	4.5	1.0
September	0.9	1.0	1.0
October	1.0	1.9	1.5
November	2.7	3.0	2.5
December	4.0	5.6	5.8
TOTAL AVERAGE	2.2	2.9	3.1

Source: Exhibit 7.

(END OF APPENDIX C)

APPENDIX D

RECORD OF FIELD CALLS MADE AT FOLTS' RESIDENCE

<u>Date</u>	<u>Elec. Reading</u>	<u>Daily Avg.</u>	<u>Gas Reading</u>	<u>Daily Avg.</u>	<u>Notes</u>
1/27	11106	23.8	3808	2.2	Meter Reader
2/4	11444	42.3	3848	5.0	
2/26	12265	37.3	3947	4.5	Meter Reader
3/11	12420	11.9	3937	Neg.	Meter Irreg. (Elec)
3/12	12451	31.0	3940	3.0	
3/19	12744	41.8	3972	4.5	
3/25	12972	38.0	4004	5.3	
3/30	13137	33.0	4019	3.0	Meter Reader
4/2	13242	35.0	4025	2.0	
4/7	13416	34.8	4041	3.2	
4/14	13641	32.1	4055	2.0	
4/22	13888	30.8	4068	1.6	
4/27	14066	35.6	4074	1.2	Meter Reader
5/4	14285	30.8	4082	1.0	
5/12	14755	61.2	4092	1.2	
5/19	15139	52.0	4101	1.2	
5/28	11412	Neg.	4114	1.4	Meter Reader
6/4	11722	44.2	4124	1.1	Meter Irreg. (Elec)

Source: Exhibit 6.

(END OF APPENDIX D)

Decision _____

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Lawrence M. Folts,

Complainant,

vs.

Pacific Gas and Electric Company,

Defendant.

Case 89-03-007
(Filed March 7, 1989)

Lawrence M. Folts, for himself, complainant.
Barbara S. Benson, for Pacific Gas and
Electric Company, defendant.

O P I N I O N

On March 7, 1989, Lawrence M. Folts filed this complaint against Pacific Gas and Electric Company (PG&E) alleging that PG&E had wrongly backbilled him for electric and gas service. Complainant states that he did not use the energy for which he was backbilled and that, in any case, PG&E cannot collect for underbilled usage beyond three years.

PG&E filed an answer to Folt's complaint on April 10, 1989, denying complainant's allegations. Informal resolution of this matter with Commission staff was unsuccessful. Accordingly, the matter went to hearing on June 2, 1989. The matter was submitted on July 11, 1989. This decision finds that PG&E should reduce its backbillings to Folts from a total of \$3,841.34 to \$88.37 for electricity and \$25.96 for gas.

I. Positions of the Parties

A. PG&E

PG&E states that Folts began receiving gas and electric service from PG&E in mid-1977. On January 27, 1987, PG&E's meter reader reported evidence of meter tampering at the Folts residence. PG&E began an investigation of possible tampering and of actual energy usage.

PG&E's revenue protection representative, Jerry Fuhrmann, undertook the investigation. On the subject of meter tampering evidence, Fuhrmann testified that:

- o He found evidence of tampering on the gas meter, including damage to the gas index cover screws;
- o He found evidence of tampering on the electric meter, including alterations on the outer seal, a missing inner seal, and damage to the recording hands;
- o Both the gas and electric meters were in good condition when they were installed at the Folts residence. The gas meter was installed December 1979. The electric meter was installed March 1977;
- o During the course of his investigation, both the electric and gas meters had negative readings;
- o Meter tampering in this case could have gone undetected for many years since external evidence of tampering was well-concealed;
- o Folts had an erratic pattern of gas usage over the backbilling period, indicating that the gas meter had been set back on numerous occasions; and
- o Folts' usage decreased after the meters were changed and securely sealed and that decreased consumption is typical after a customer becomes aware that PG&E suspects meter tampering.

Fuhrmann was also responsible for estimating the amount of unmetered energy used by the Folts household. He estimated the gas backbill based on actual recorded usage for the 12-month period preceding May 1985, during which he believed gas consumption was being accurately recorded. The start of the backbilling period, May 1985, was estimated on the basis that recorded usage was low and erratic beginning at that point.

Fuhrmann estimated the electricity backbill using a "percentage of annual use" method. This method estimates usage based upon a customer's actual usage during a known 30-day period and a 12-month seasonal energy use pattern. The seasonal usage pattern is developed using comparable customers. Fuhrmann used five neighboring accounts for comparison purposes. The beginning of the electric backbilling period, April 1977, was the month Folts' swimming pool was installed.

B. Folts

Folts' testimony and brief states:

- o He did not tamper in any way with PG&E's meters and has no knowledge of anyone else tampering with them;
- o PG&E's employees could have caused the irregularities on the meters;
- o He stopped heating his pool the month following the month with the highest billing, the same month PG&E's backbilling period begins;
- o His bills approached \$300 for metered usage during the backbilling period, a billing that "seems unlikely" for anyone tampering with utility meters;
- o PG&E did not provide any evidence that the five neighborhood residences, used to develop comparable billing information, have loads comparable to Folts'. Many neighborhood residences are much larger than his;

- o His family works to keep down its utility bills, including limiting the use of a single pool pump to three hours a day, and using an automatic home thermostat that cools or heats his residence only five hours a day and only when the temperature falls below 69 degrees or above 85 degrees;
- o His family's conservation efforts were motivated by increases in utility rates which have occurred since 1978; and
- o PG&E's decision to backbill over a ten-year period is contrary to Commission policy and was undertaken to "hide the fact that utility usage was not abnormal or unmetered."

II. Utility Backbilling Limitations

Folts argues that even if he had been incorrectly billed for past energy usage, PG&E's tariffs limit the period for which it may backbill its customers. Folts believes PG&E may collect for up to three years of past usage in most circumstances, or up to three months when the utility determines meter error.

PG&E denies that it is prohibited from backbilling beyond three years. Rather, the Commission will only order recovery as a matter of policy. PG&E requests a finding that Folts received unmetered energy beyond the Commission's three-year limitation.

We addressed the issue of appropriate backbilling periods and procedures in Decision (D.) 86-06-035. We determined that when a matter is brought before the Commission, we would only consider backbilling for a three-year period in energy complaint cases. We stated that the utilities may have additional recourse before the courts and that we did not intend to limit collections related to such actions for backbilling beyond the three-year period. We also found that a reasonable period of limitation where residential meter error has occurred to be three months.

Consistent with the policy set forth in D.86-06-035, we will not make any determinations beyond the three-year period.

III. Evidence of Energy Diversion

During hearings, PG&E focused on evidence which would demonstrate meter tampering. Its witness, an energy diversion investigator, testified that he began an investigation of meter tampering at the Folts residence after a meter reader informed him that the gas and electric meters appeared to have been tampered with. PG&E first tested the meters and found them to be operating properly. It then began an investigation to determine whether the meters had been subject to tampering.

PG&E presented photographs of complainant's gas and electric meters which showed numerous irregularities in the condition of operating parts. For example, screws appeared to have abnormal levels of wear. Meter dials had finger prints on them. PG&E did not provide evidence to show that complainant had caused these irregularities. It did argue, however, that notwithstanding the source of meter tampering, it had underbilled Folts over a nine-year period for electric service, and a two-year period for gas service.

Folts stated emphatically that he did not tamper with PG&E's gas and electric meters, and argued that the meters' irregularities could have been caused by either a PG&E employee or by a prior customer who lived at his residence.

We believe energy diversion is a serious problem in California. Energy theft is a crime, and costs the general body of ratepayers millions of dollars. Accordingly, we have encouraged the utilities to establish aggressive programs to discourage and identify energy diversion by customers.

We developed guidelines on the issue of energy diversion in D.86-06-035, where we stated generally that this Commission does

not determine in cases such as this the guilt or innocence of a utility customer. Our main concern is to determine whether the utility backbill is appropriate and correctly calculated. D.86-06-035 states:

"Whether tampering or energy diversion was performed by the customer is not the issue. The issue is whether the customer benefited from unmetered energy regardless of whether or not there was meter tampering or energy diversion and regardless of who performed any tampering or energy diversion."

PG&E has demonstrated that complainant's gas and electric meters have been handled in irregular ways. The evidence provided by PG&E did not demonstrate that meter tampering necessarily occurred during the period in question, although we address the issue of appropriate billings more fully in Section IV of this decision. PG&E does not specifically claim that complainant diverted energy from PG&E by tampering with the meters. In any event, we need not rule on whether Folts diverted energy. We need only determine whether PG&E's backbills are a reasonable estimate of energy used by Folts during the period in question.

IV. The Reasonableness of PG&E's Backbills

In prior decisions addressing issues of this kind, we have found that, notwithstanding whether energy has been diverted, customers should pay for any energy from which they have benefited. We have generally looked to patterns of use before and during the backbilling period. For instance, in D.87-07-074, we found that complainant's metered usage had dropped so significantly from the period prior to the backbilling period that she had received the benefit of unmetered energy. Similarly in this case, we consider patterns of use in determining whether Folts received unmetered energy during the periods in question.

Both Folts and PG&E provided information regarding amounts originally billed by PG&E and backbilled by PG&E for gas and electric service. PG&E backbilled Folts \$3,123.74 for electric service over a nine-year period, from April 1978 to June 1987. It backbilled Folts \$717.60 for gas service over a two-year period, from June 1985 to March 1987.

PG&E's witness also provided tables which show Folts' billed usage before, during, and after the period of backbilling. He believes that usage went down after the backbilling period because customers often reduce their usage after energy diversion is discovered in order to obfuscate past activity.

We have considered the billing information provided by the parties. We note that Folts' metered gas and electricity use over the period in question shows some significant month-to-month variations. These variations could result from meter tampering, periods when meter readers did not check the meters, misreadings, or usage variations resulting from weather patterns or customer decisions (e.g., a decision by Folts not to heat his swimming pool). To correct for these variations, we considered averaged billing information in determining whether Folts' metered energy usage was realistic under the circumstances.

A. Electricity Usage

We first consider electricity usage. Appendix A shows the average daily use by month and year (rounded to the nearest kilowatt hour) for the period beginning April 1977 and ending March 1989 for billed and metered electric use. The data is broken down for the periods before, during, and after backbilling.

In every month but September, billed usage was higher during the backbilling period than before or after that period. During January, average usage during the backbilled period is slightly lower than the period before the backbilled period but higher than usage during the subsequent period. For the total backbilling period, Folts' average metered usage was 31 kilowatt

hours (kWh) per day, compared to 27 kWh before the period in question and 25 kWh after.

PG&E has backbilled Folts for 34,912 kWh, about 33% more than was metered during the backbilling period. PG&E's witness described how he estimated an appropriate electricity backbill. He chose five comparable customers in complainant's neighborhood to determine percentage of annual usage for each month. He then estimated Folts' usage by selecting a representative month in which he suspected no meter tampering, and applied to all months the average monthly percentage of annual use determined with comparable customer data. For electric service, he determined improper billings began during the month when Folts installed a swimming pool on his premises. PG&E's witness stated he did not choose comparable customers based on comparable load, but because their monthly billings were similar to Folts' billings during periods when he suspected no meter tampering.

Folts argued that the comparable customer data are not useful because customer load data for those residences is not available. He stated that some customers may have larger houses or more appliances and that his residence is among the smallest in his neighborhood.

Discussion. The record does not show that Folts used unmetered electricity during the backbilling period. Folts' usage patterns for metered energy have been reasonable under the circumstances. The additional usage that PG&E estimates is simply unrealistic in this case.

In coming to this conclusion, we first consider the reasonableness of total usage, applying PG&E's backbilled amounts to metered usage. Adding the backbilled amount to the total average metered usage during the backbilling period results in daily average usage of over 41 kWh. We do not believe this is a realistic estimate of Folts' usage during the period in question since it is 64% more than Folts' average usage during the two years

following the backbilling period and 52% more than average usage during the year previous to the backbilling period. Using PG&E's numbers, we would have to assume that Folts reduced his electrical usage by about 40% over a two-year period in an attempt to avoid detection as an energy diverter. Such a reduction seems implausible in this case.

Folts' electricity usage is likely to have increased because he installed a swimming pool. We cannot assume, however, that the operation of an electric pump would have increased electrical use by 52%, or 14 kWh per day, since Folts testified that he has a single pump which operates three hours a day. After the installation of the pool, Folts' metered electricity increased on average by 15%, or 4 kWh. This increase is reasonable under the circumstances.

As a check on the foregoing analysis, Appendix B compares the average monthly usage of the five neighboring customers with Folts' average usage over the backbilling period. In some months, Folts' usage exceeds that of the comparable customer group and in some months it is lower. Folts' average yearly usage is about 10% lower than the average for the comparable customer group, and higher than one customer in that group (Exhibit 5). Adding 33%, as PG&E did, to Folts' metered usage would place his average annual use at 15,208 kWh. This amount is higher than any of the five comparable customers, and much higher than the average of 12,713 kWh.

Finally, we consider the record of field calls (Exhibit 6) made by PG&E during its meter diversion investigation at the Folts' residence. Appendix D provides PG&E's record of field calls made during its investigation in 1987. The metered usage during that four-month period does not show unusual variations in usage with two exceptions. On March 11, the meter showed signs of irregular handling and usage appeared low on a visit immediately following a visit by meter reader. On May 28, the

meter had been turned back. That reading was one of the few taken by the meter reader, not PG&E's investigator over the period of investigation. The meter had been turned back about 4,000 kWh, about four months worth of usage. Further, this negative reading is the only one to have been observed on the electric meter over the nine-year period in question.

It is implausible to us that a person who is alleged to have tampered undetected with a meter for a nine-year period would be so bold or careless as to move the meter back 4,000 kWh. In consideration of these observations and because the pattern of Folts' metered electrical use was not otherwise unusual, we will discount the implications of that negative meter reading as it affects Folts' case.

In sum, we cannot find PG&E's estimates of Folts' electric usage are reasonable for the reasons discussed above. Folts' electric usage during the backbilling period appears to be consistent with usage before and after the backbilling period, considering the installation of a pool.

Folts' electric meter appears to have been subject to unusual handling. We conclude, however, that such handling did not result in unmetered energy except for the period in May 1987 when, during the period of investigation, the meter registered negative. We will require complainant to pay for electrical usage for that month based on the average of the previous four May usage levels, or a total backbill for electricity of \$88.37 (853 kWh x \$.1036).

B. Gas Usage

We next considered gas usage. Appendix C shows data for complainant's gas usage. During nine out of twelve months, metered usage is significantly lower during the backbilling period than before it. It is considerably higher in most months during the backbilling period than after, with the exceptions being January and March. On average, the metered amounts during the

usage pattern developed from an analysis of the usage patterns of comparable customers to a single month of nontampered actual usage by the backbilled customer in order to develop an estimated base year from which an overall backbill can be derived. Here, PG&E chose February 1987 as the base month, and developed a three-year backbill of 12,269 kWh. PG&E stated the billing period from March 31 to April 27, 1987 also appeared to represent nontampered usage by Folts. If PG&E had used April 1987 as the base month, it would have developed a three-year backbill of approximately 5,645 kWh.¹ This is 54% less than the back bill based on February 1987 usage. Under PG&E's Estimated Annual Usage Computation Instructions, either month could have been chosen. We find that PG&E's "percentage of annual use" backbilling method is extremely sensitive to the base month chosen.

Additionally, we note that PG&E backbilled Folts for April 1987 usage based on the percent of annual use method even though PG&E testified that there did not appear to be any tampering during this period. This added 147 kWh to Folts' backbill.

We make these comments to demonstrate the shortcomings of the percentage of annual use backbilling method. The sensitivity of this method to the actual use base month chosen suggests that backbills based on a single month of actual use may not accurately reflect the electricity received by the backbilled customer. The subjectivity of this estimating technique argues strongly in favor

¹ In our calculations using April 1987 as the base month, we established a daily average use by month for an estimated base year, and multiplied the daily average for each month of the base year by the number of days in the actual billing cycle during each corresponding month of the backbill period. We did not use the actual usage figure where it exceeded the estimate, as did PG&E. Thus, our results may differ slightly from those PG&E would derive from an April 1987 base month. We also note that we used a 37-month backbill period in order to match that used by PG&E.

backbilling period are 34% lower than during the period prior and 32% higher than usage after the backbilling period.

Folts' gas usage during the backbilled period appears to have been, in some specific months and on average, significantly lower than usage prior to that period. Folts testified that he stopped heating his pool in 1985. He pointed out that gas usage during the backbilling period is comparable to the period prior to the installation of the pool in spring of 1978.

Discussion. We believe Folts' explanation of the variation in gas usage is reasonable, that is, that his gas usage declined because he stopped heating his swimming pool.

The record shows that Folts' average metered usage during the months for which PG&E backbilled is comparable to usage for the year prior to the installation of the pool. Therefore, we will not find that Folts used unmetered gas during the backbilling period, except as discussed below.

We comment on PG&E's estimating method for unmetered gas. In D.86-06-035 we stated our intent to use alternative methods for calculating backbilling "for use in cases where no reliable data is available or as a cross-check of the results of the standard methodology." In this case, PG&E did not have specific load data. Accordingly, it should have provided some information which would permit a cross-check of its estimate. At the very least, it should have provided usage information for comparable customers in Folts' neighborhood, as required by our energy diversion guidelines, adopted in November 1986 and cited in D.87-07-074.

Even if we had found in this case that Folts was likely to have used unmetered energy during the backbilling period, we would have hesitated to permit PG&E to backbill for unused energy lacking good information about probable levels of usage. PG&E should adhere to our energy diversion guidelines in future cases.

Finally, we note that PG&E's record of its field investigations (Exhibit 6) shows that the investigator reported a negative gas reading on a visit immediately following a visit by the meter reader about two months into the investigation. (See Appendix D.) At no other time had the gas meter been reported to have registered negative. For that reason, and because we find Folts' gas usage to be reasonable, we will discount the implications of this reading.

To assure that PG&E is reimbursed for total gas usage during the month when the gas meter registered negative, we will require complainant to pay for additional gas usage for that month. The backbill amount is based upon the difference between the amount billed (for usage during the period after the meter registered negative) and the daily average usage of 3.8 therms which registered over the course of the month. The total backbilled amount for gas is \$25.96 (1.6 therms x 32 days x \$.507).

Findings of Fact

1. PG&E backbilled complainant in the amount of \$3,123.74 for electrical service between April 1978 and June 1987. It backbilled complainant in the amount of \$717.60 for gas service between June 1985 and March 1987.

2. In January 1987, PG&E initiated an investigation of energy diversion at the Folts residence after a meter reader reported possible meter tampering.

3. PG&E's tests for complainants' gas and electric meters showed that they were neither fast nor slow at the time they were tested.

4. PG&E demonstrated that the gas and electric meters at the Folts residence showed signs of irregular handling.

5. PG&E did not assert that a member of the Folts household tampered with the gas or electric meters at the Folts residence.

6. PG&E's estimates of unmetered electric usage are approximately 64% higher than average metered usage after the

backbilling period and 54% higher than average metered usage the year prior to the backbilling period.

7. Folts' average metered electricity usage during the backbilling period is 24% higher than average usage levels after the backbilling period and 15% higher than average usage levels during the year prior to the backbilling period.

8. Backbilled amounts plus metered amounts provides an estimate of total electric usage that is significantly higher than the average usage of comparable customers and higher than the average use of any comparable customer.

9. Folts' metered electricity usage increased, on average, 15% after installation of a swimming pool.

10. PG&E has not demonstrated that the backbilled amounts for electricity are reasonable or that Folts received the benefits of unmetered electricity, except in the month of May 1987 when the electric meter registered negative.

11. PG&E's estimates of unmetered gas usage are approximately twice as high as the metered usage after the backbilling period and equal to the metered usage during the year prior to the backbilling period.

12. Folts testified that he stopped heating his swimming pool at the onset of the backbilling period.

13. Gas usage in the year prior to the installation of the swimming pool is comparable to usage during the backbilling period.

14. Folts does not appear to have received the benefit of unmetered gas during the backbilling period, assuming that he stopped heating his swimming pool during that period.

15. During the period when PG&E investigated Folts' gas and electric meters, each meter registered negative once. The electric meter registered negative during a call by a meter reader. The gas meter registered negative during a call by the investigator, immediately following a visit by a meter reader.

16. Neither the gas nor the electric meter at the Folts' residence registered negative during the backbilling period or any other period for which information is available.

17. Folts received the benefit of some unmetered gas during the month of March 1987, when the gas meter registered negative.

18. The Commission's energy diversion guidelines require the utilities to develop estimates of unmetered energy by using average monthly consumption of five or more residences in the vicinity of the site of unauthorized use. PG&E did not provide such information for gas use at the hearing and did not use such information in developing an estimate for unmetered gas use.

Conclusions of Law

1. The Commission does not consider backbilled amounts exceeding three years, pursuant to D.86-06-035.

2. The Commission does not determine the innocence or guilt of utility customers in cases where energy diversion is at issue, pursuant to D.86-06-035. Such matters are left to the criminal courts.

3. The Commission found in D.86-06-035 that its role in backbilling complaint cases is to determine a reasonable level of energy usage for the period in question.

4. Folts' complaint should be granted, with the exception that he should be ordered to pay for unmetered energy during May 1987, when the electric meter registered negative, and during March 1987, when the gas meter registered negative. Folts should be required to pay for unmetered electricity, based on the average of his previous four May bills, or \$88.37. Folts should be required to pay for unmetered gas based on his average use during that portion of March 1987 when the meter registered gas usage, or \$25.96.

ORDER

IT IS ORDERED that:

1. Pacific Gas and Electric Company (PG&E) shall reduce the electric backbill to complainant, Lawrence M. Folts, to \$88.37.
2. PG&E shall reduce the gas backbill to complainant to \$25.96.
3. With the exceptions stated in Ordering Paragraph 1 and Ordering Paragraph 2 of this order, this complaint is granted.
This order is effective today.
Dated _____ at San Francisco, California.

APPENDIX A

Daily Average Electric Usage (kWh)
April 1977 - March 1989

<u>Month</u>	<u>After Backbilling Period</u>	<u>During Backbilling Period</u>	<u>Before Backbilling Period</u>
January	27	31	33
February	25	28	24
March	24	28	26
April	24	26	11
May	24	25	16
June	23	28	24
July	27	35	34
August	22	38	38
September	27	38	42
October	25	29	22
November	26	29	18
December	28	34	31
TOTAL AVERAGE	25	31	27

Source: Exhibit 8.

(END OF APPENDIX A)

APPENDIX B

Average Usage of Five Comparable Customers and Folts' Usage
During the Backbill Period (kWh)

<u>Month</u>	<u>Five Comparable Customers</u>	<u>Folts</u>
January	1178	953
February	997	858
March	1054	837
April	930	805
May	1153	749
June	1054	915
July	1184	1069
August	1081	1130
September	1088	1192
October	999	974
November	944	944
December	1051	1009
TOTAL AVERAGE	12713	11435

Source: Exhibit 5.

(END OF APPENDIX B)

APPENDIX C

Daily Average Gas Usage (therms)
March 1977 - March 1989

<u>Month</u>	<u>After Backbilling Period</u>	<u>During Backbilling Period</u>	<u>Before Installation of Pool</u>
January	4.8	3.3	5.5
February	3.7	4.4	5.0
March	2.6	2.6	6.3
April	2.2	2.3	3.1
May	1.5	2.7	2.7
June	1.0	1.8	1.9
July	0.8	1.3	1.1
August	0.8	4.5	1.0
September	0.9	1.0	1.0
October	1.0	1.9	1.5
November	2.7	3.0	2.5
December	4.0	5.6	5.8
TOTAL AVERAGE	2.2	2.9	3.1

Source: Exhibit 7.

(END OF APPENDIX C)

APPENDIX D

RECORD OF FIELD CALLS MADE AT FOLTS' RESIDENCE

<u>Date</u>	<u>Elec. Reading</u>	<u>Daily Avg.</u>	<u>Gas Reading</u>	<u>Daily Avg.</u>	<u>Notes</u>
1/27	11106	23.8	3808	2.2	Meter Reader
2/4	11444	42.3	3848	5.0	
2/26	12265	37.3	3947	4.5	Meter Reader
3/11	12420	11.9	3937	Neg.	Meter Irreg. (Elec)
3/12	12451	31.0	3940	3.0	
3/19	12744	41.8	3972	4.5	
3/25	12972	38.0	4004	5.3	
3/30	13137	33.0	4019	3.0	Meter Reader
4/2	13242	35.0	4025	2.0	
4/7	13416	34.8	4041	3.2	
4/14	13641	32.1	4055	2.0	
4/22	13888	30.8	4068	1.6	
4/27	14066	35.6	4074	1.2	Meter Reader
5/4	14285	30.8	4082	1.0	
5/12	14755	61.2	4092	1.2	
5/19	15139	52.0	4101	1.2	
5/28	11412	Neg.	4114	1.4	Meter Reader
6/4	11722	44.2	4124	1.1	Meter Irreg. (Elec)

Source: Exhibit 6.

(END OF APPENDIX D)