

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

COMMISSION ADVISORY
AND COMPLIANCE DIVISION
ENERGY BRANCH

RESOLUTION E-3067
FEBRUARY 24, 1988

RESOLUTION

PACIFIC GAS AND ELECTRIC COMPANY (PG&E), ELECTRIC DEPARTMENT. ORDER AUTHORIZING PG&E TO MODIFY ITS METHOD OF CALCULATING THE POWER FACTOR ADJUSTMENT IN SCHEDULES A-10, A-11, AND E-20.

(Advice Letter 1175-E, Filed October 16, 1987.)

SUMMARY

1. By Advice Letter 1175-E filed October 16, 1988, PG&E requested authorization to modify its current method of calculating the power factor adjustment applied to electric bills of customers taking service under electric rate schedules A-10, A-11, and E-20 for large and medium light and power customers. The new method is designed to simplify billing and reduce administrative costs in calculating customers' bills.
2. By this Resolution, PG&E is authorized to make the modifications to schedule A-10, A-11, and E-20 as requested.

BACKGROUND

3. Power factor is the ratio of the active power (kilowatts) to the apparent power (kilovolt-amperes) used by an electrical device in an alternating current circuit. Only the active power is capable of performing useful work, and thus, the power factor is an indication of how much of the total current is actually doing work.
4. The bill adjustment for power factor accounts for the electrical current that PG&E must produce for large and medium light and power classes, but which is not actually put to any useful purpose. This extra current, while serving no useful purpose, still requires electric capacity. The power factor adjustment acts as an incentive for customers to use efficient electrical devices or to increase their power factor by installing special corrective equipment.
5. Customers with demands of 400 kilowatts or more have power factor adjustments in their rates. Customers receive a lower bill for maintaining an average power factor greater than 85 percent, and receive a higher bill for maintaining and average power factor less than 85 percent. A customer who

maintains an average power factor of 85 percent receives no bill adjustment. The 85 percent cutoff is chosen because historically, this has been the average power factor for large and medium light and power customers. In addition, a customer whose demand is less than 400 kilowatts receives no power factor adjustment because it is not cost effective to install the extra wire needed to measure the power factor.

DISCUSSION

6. Currently, the power factor rate adjustment is used for billing as follows: A base number equal to the sum of customer charge, the demand charge, and the portion of the energy charge stemming from the base energy rate is determined. When a customer's average power factor is greater than 85 percent, this base number is reduced by 0.1 percent for each percentage point the power factor exceeds 85 percent. Conversely, when a customer's average power factor is less than 85 percent, this base number is increased by 0.1 percent for each percentage point the power factor is below 85 percent. The problem is that under this method, PG&E's customers cannot calculate the power factor adjustment by simple reference to their bill because the bill does not show the base energy rate. In addition, PG&E must reprogram the power factor computation for billing each time there is a change in base rates.

7. Under PG&E's proposed method, a customer whose average power factor is greater than 85 percent would have his bill reduced by 0.06 percent for each percentage point the power factor exceeds 85 percent. A customer whose average power factor is less than 85 percent would have his bill increased by 0.06 percent for each percentage point the power factor is below 85 percent. The bill adjustment would be applied to total charges, exclusive of any taxes. Under this method, customers could determine their power factor adjustment from information appearing on their electric bill.

8. According to PG&E, the 0.06 percent adjustment has been calculated to provide the same revenue effects as the existing adjustment, and therefore, should not measurably effect revenues. In some individual cases, the power factor adjustments may be affected, however, any changes should be no more than one half of one percent of the bill.

9. The power factor adjustment of 0.06 percent was calculated as shown in attachment 1. The new adjustment was calculated using large light and power revenues adopted in Decision (D.) 86-12-091 in PG&E's Energy Cost Adjustment Clause Application (A.) 86-04-012. Although A-10 and A-11 customers may be subject to a power factor adjustment if their demands exceed 400 kW, revenues from these schedules were not used in

the calculation because only a few customers from these schedules have enough demand to be subject to the adjustment.

10. The Commission Advisory and Compliance Division (CACD) has reviewed this advice letter and has determined that any revenue effects would be small. CACD recommends its approval.

11. No protests were received regarding this filing.

FINDINGS

1. We find that the rates, charges and conditions of service as proposed in Advice Letter 1175-E are just and reasonable;

Therefore, IT IS ORDERED that:

1. Pacific Gas and Electric Company is hereby authorized to amend the method of calculating the power factor adjustment for rate Schedules A-10, A-11, and E-20 as proposed in Advice Letter 1175-E.
2. Advice Letter 1175-E and accompanying tariff sheets shall be marked to show that they were approved for filing by Commission Resolution E-3067; the tariff sheet shall be effective on and after March 1, 1988.
3. This Resolution is effective today.

I hereby certify that this resolution was adopted by the Public Utilities Commission at its regular meeting on February 24, 1988. The following Commissioners approved it:

STANLEY W. HULETT
President

DONALD VIAL
JOHN B. OHANIAN
Commissioners



Executive Director

CALCULATION OF PROPOSED POWER FACTOR ADJUSTMENT

Large Light and Power Revenues¹

Base Energy Revenues	\$559,926,000
Customer Charge Revenues	\$ 4,189,000
Demand Charge Revenues	\$296,138,000
Sum	<u>\$860,253,000</u>
Total Revenues	\$1,446,105,000

Calculation of Proposed Adjustment Factor:

New Factor equals:

(Old Factor) X [(Sum of Base Energy Revenues, Customer charge Revenues, and Demand Charge Revenues)] / Total Revenues

$$\text{New Factor} = (0.1) \times \frac{(860,253,000)}{1,446,105,000} = 0.06$$

¹ Revenues adopted in Decision 86-12-091 in Application 86-04-012, Appendix D.