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ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation on the Commission's own motion to implement the Biennial Resource Plan Update following the California Energy Commission's Seventh Electricity Report.	I.89-07-004 (Filed July 6, 1989)
Second application of Pacific Gas and Electric Company for approval of certain standard offers pursuant to Decision 82-01-103 in Order Instituting Rulemaking No. 2.	Application 82-04-44 (Filed April 21, 1982; amended April 28, 1982, July 19, 1982, July 11, 1983, August 2, 1983, and August 21, 1986)
And Related Matters.	Application 82-04-46 Application 82-04-47 Application 82-03-26 Application 82-03-37 Application 82-03-62 Application 82-03-67 Application 82-03-78 Application 82-04-21

O P I N I O N

I. Summary

By this order we deny recent protests to the quarterly avoided cost energy price postings made by Southern California Edison Company (SCE) and San Diego Gas & Electric Company

(SDG&E).[1] We conclude that SCE and SDG&E (1) used reasonable assumptions and an appropriate methodology in designating the incremental fuel over the quarters and (1) properly excluded transportation-related gas charges when oil was incremental.

We also solicit comments on a proposal to convert the quarterly avoided cost energy price posting and protest procedure established in Decision (D.) 82-12-120 to an advice letter filing.

II. Introduction

Independent power producers, termed qualifying facilities (QFs), sell electric power to the utilities regulated by this Commission. Over the last decade, we have issued a series of decisions defining the terms and conditions of standard offer contracts for the purchase of energy and capacity from QFs.[2] The pricing provisions of these contracts vary depending on the nature of the commitment from the QF, and the planning time frame being considered.

In this order, we address energy pricing issues affecting our short-run Standard Offers.[3] Specifically, we consider

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1 See Attachment 1 for a complete list of the protesting parties, their filings, and responses.

2 For a list of the major Commission decisions on the development of Standard Offers, see D.88-09-026 (in Application (A.) 82-04-44 et al.), Appendix C.

3 Standard Offers 1, 2, and 3 are considered "short-run" because the energy price is computed on the basis of the purchasing utility's existing generation resources, without consideration of possible resource additions. Similarly, under Standard Offer 4,

(Footnote continues on next page)

whether or not the demand charge component of utility electric generation (UEG) gas rates should be paid to QFs when oil is designated as the incremental fuel. In addition, we review our adopted methodology for determining the incremental fuel, and consider whether or not SCE and SDG&E have applied that methodology correctly. These issues were raised in a series of protests to SCE's and SDG&E's recent quarterly avoided cost energy price postings.

III. Background

As described in prior Commission decisions, the energy price paid under Standard Offers 1, 2, and 3 corresponds to the utility's short-run avoided energy costs. (See Section V below.) Under the procedures established in D.91109 and subsequent orders, the price is derived quarterly by multiplying the utility's Incremental Energy Rate (IER) times the cost of the utility's incremental fuel for the quarter, typically oil or gas.[4] By "incremental" (or marginal) fuel, we refer to the fuel that would be used to serve one additional kilowatt-hour of demand for electricity.

(Footnote continued from previous page)
QFs that come on-line before the projected on-line date of the avoidable resource are paid on a short-run basis.

4 The IER shows a utility's generating efficiency at the margin. It states the quantity of heat energy needed per unit of electricity. The fuel cost is measured in dollars per quantity of heat energy. Multiplying IER times fuel cost yields dollars per unit of electricity, which is the energy price paid to the QF.

Historically, the calculations for each quarterly posting have been relatively straightforward and noncontroversial. The IERs were taken directly from our decisions in the applicable General Rate Case (GRC) or Energy Cost Adjustment Clause (ECAC) proceeding.[5] When oil was designated as the marginal fuel, it was priced at the average cost of oil purchased during the previous quarter. If the marginal fuel was natural gas, it was priced using the current weighted average gas rate charged by the local distribution company (LDC) for UEG. Basically, the only discretionary element of the quarterly postings was the designation of the marginal fuel (or fuel mix).

In Order Instituting Investigation (I.) 86-06-005, we effectively unbundled gas transportation and procurement services, and de-averaged rates. As a result, the once single volumetric gas rate to the UEG customer was broken into a variety of fixed and volumetric charges, corresponding to the unbundled service components.[6] A brief overview of the new UEG gas rate design is presented in Attachment 2.

These rate design changes prompted us to reexamine the question of what gas costs incurred by UEG customers are avoidable by QFs. In D.88-07-024, issued on July 8, 1989, we addressed this issue. In brief, we determined that all gas charges allocated by sales or throughput, including fixed demand charges, are avoidable by QFs. As described in greater detail below, we came to this

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5 Prior to 1988, we updated IERs in each utility's GRC proceeding. Per D.88-03-026, issued March 9, 1988, we now update IERs in each utility's annual ECAC proceeding.

6 Prior to our determinations in I.86-06-005, gas prices were set on a total cents per therm basis and included the fixed costs of the LDC. If a UEG customer elected to burn 100% oil in a month, the LDC received no revenue that month.

determination by evaluating the impact of QFs on total UEG gas consumption.

On October 3, 1988, subsequent to our determinations in D.88-07-024, SCE and SDG&E filed their preliminary avoided cost energy prices for the quarter beginning November 1, 1988 (November 1988 Posting). On April 3, 1989, SCE and SDG&E filed their preliminary avoided cost energy prices for the quarter beginning May 1, 1989 (May 1989 Posting).[7]

Protests to SCE's November 1988 and May 1989 Postings were filed by the Watson Cogeneration Company (WCC), the Cogenerators of Southern California (CSC), the California Cogeneration Council (CCC), (collectively, WCC/CSC/CCC), and the Cogeneration Service Bureau (CSB). In addition, the Kelco Division of Merck & Company, Inc. (Kelco) filed protests to SDG&E's November 1988 and May 1989 Postings. These protests are consolidated for resolution in today's order.[8] SCE, SDG&E, and the Division of Ratepayer Advocates (DRA) filed responses. Attachment 1 presents a complete listing of the protests and responses.

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7 SCE and SDG&E also filed preliminary avoided energy prices for the quarter beginning February 1, 1989, but no protests or comments were filed.

8 We note that several of these protests were improperly filed: CSB's and WCC/CCC's protests to SCE's May 1989 Posting was filed in response to the final quarterly posting, rather than the preliminary posting. Instead of filing a motion with our Docket Office, Kelco mailed a letter protesting SDG&E's May 1989 Posting to our Commission Advisory and Compliance Division. We will accept these filings, in this instance, because the issues raised in the protests are substantially the same as these parties' protests to the November 1988 Postings. However, in ordinary circumstances, protests that are procedurally improper will not be regarded as having been timely filed, without good cause shown. (See Section V.C below for a description of the revisions we propose today to these posting and protest procedures.)

IV. Position of the Parties

WCC/CSC/CCC, CSB, and Kelco object to the marginal fuel cost component in SCE's and SDG&E's November 1988 and May 1989 Postings. Their objections fall into two categories: (1) objections to the designation of oil as the marginal fuel and/or (2) objections to the exclusion of transportation-related gas charges when oil is designated as the marginal fuel. Similarly, the responses of DRA, SCE, and SDG&E are organized around these two issues, as described below.

A. Marginal Fuel Designation

In their November 1988 Postings, both SCE and SDG&E designated oil as the incremental fuel throughout the quarter. For the quarter beginning May 1, 1989, SCE designated oil as the incremental fuel for the first month of the quarter. Similarly, SDG&E projected that oil would be on the margin for a portion of the quarter.[9]

1. Position of WCC/CSC/CCC

WCC/CSC/CCC assert that SCE (and by implication, SDG&E) have misapplied the Commission's methodology for determining the incremental fuel each quarter.[10] In their view, the designation of incremental fuel must be based on the actual price and supply conditions, including gas availability, existing on the first day

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9 For the quarter beginning February 1, 1989, both SCE and SDG&E designated gas as the incremental fuel throughout the quarter. No protests or comments were filed.

10 Although WCC/CSC/CCC did not protest SDG&E's November 1988 posting, they imply that SDG&E made similar errors. (See Joint Protest of WCC/CSC/CCC dated October 31, 1989, p. 8, footnote 7.)

of the quarter. WCC/CSC/CCC argue that SCE's use of "projected" prices and availabilities to determine the marginal fuel directly violates the Commission's directives.

According to WCC/CSC/CCC, in designating the incremental fuel for each quarter, the utility must consider only current fuel price and supply conditions. Specifically, the utility should compare: (1) the current incremental gas price (i.e., Tier II cost of gas) and (2) the price of oil into inventory during the previous quarter.[11] The cheaper of the two fuels, based on this comparison, becomes the designated incremental fuel. If gas curtailment exists on the first day of the quarter, the utility must designate oil as the incremental fuel throughout the quarter. Conversely, if gas curtailment has ended as of the first day of the quarter, the utility must assume that gas will be available throughout the quarter.

Applying these rules, WCC/CSC/CCC conclude that, for the quarter beginning November 1, 1988, natural gas, and not oil, is the appropriate incremental fuel. While not objecting to the incremental fuel designation in SCE's May 1989 Posting, WCC and CSC argue that, based on current supply conditions (i.e., gas curtailment), oil should be the incremental fuel throughout the quarter.[12]

2. Position of CSB

CSB asserts that SCE will need to utilize gas as its incremental fuel on air quality episode days. Therefore, in CSB's view, gas should be considered the incremental fuel for some

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11 Tier II cost of gas reflects the marginal rate--i.e., the commodity cost of gas plus second tier transmission charges. (See Attachment 2.)

12 CCC also filed a protest to SCE's May 1989 Posting, but was silent on the issue of the incremental fuel designation.

fraction of the quarter beginning November 1, 1988 to reflect these possible episode days.

CSB also argues that, even with SCE's switch to oil, a portion of the marginal energy price should reflect "Tier I" gas charges.[13] For the quarter beginning November 1, 1988, CSB asserts that SCE will supply 21% of its oil and gas requirements with Tier I gas, and 79% with oil. Therefore, CSB concludes that incremental gas and oil costs should be weighted by these respective percentages. CSB makes similar arguments in its protest to SCE's May Posting.

3. SCE's Response

SCE argues that, contrary to WCC/CSC/CCC's assertions, the Commission did not adopt a specific methodology for how a utility should determine whether oil or gas was the expected incremental fuel. According to SCE, D.82-12-120 clearly specified that utilities should use their projected marginal fuel mix to determine which fuel is incremental.

In support of its projections for the quarter beginning November 1, 1988, SCE explains that: (1) the replacement cost of oil has fallen below the commodity cost of gas, and (2) the price of natural gas historically rises during November, December, and January. SCE provides a declaration of facts and conditions to document these assumptions. In sum, SCE argues that it has used reasonable forecasts of fuel prices and gas availability to determine its incremental fuel, and that WCC/CSC/CCC have provided no facts to the contrary.

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13 Tier I gas charges reflect the commodity cost of gas plus the Tier I gas transmission rate, multiplied by projected Tier I gas volumes. The only difference between Tier I and Tier II gas charges is the difference in the margin recovered in the declining block structure. As described in Attachment 2, Tier I is higher than Tier II in order to recover certain administrative and general expenses.

In response to CSB, SCE argues that it will not take any Tier I or Tier II gas during the quarter. SCE points out that Tier I gas is more expensive than Tier II gas. Therefore, if it is more economic to burn oil than Tier II gas, then SCE argues it is even more economic to burn oil in place of Tier I gas.

Moreover, SCE argues that Tier I gas would not necessarily be incremental even if it were projected to be burned during the quarter:

> "For example, if Edison had a limited quantity of lower-cost gas fuel available which would be burned completely with or without QF production, and with any remaining needs being met by oil, then oil would be the incremental fuel 100% of the time."[14]

Finally, SCE contends that there is no need to adjust the November posting to reflect the possibility of episode days. According to SCE, there has been, on average, fewer than one episode day for this quarter over the last decade. The effect of this change in the incremental fuel costs would be lost in rounding.

4. DRA's Comments

DRA agrees with SCE that WCC/CSC/CCC have misconstrued the Commission's methodology for determining the avoided cost energy price. DRA argues that the utility is expected to forecast its marginal fuel mix, but to use recorded oil and current gas prices in order to calculate the energy price to QFs. DRA considers SCE's forecasts to be based on reasonable assumptions. In DRA's view, CSB offers no support for its assumption that SCE will rely on Tier I gas for 21% of its incremental fuel.

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14 See Response of SCE to CSB's Protest, dated November 21, 1988, p. 8.

B. Gas-Related Demand Charges

In their November 1988 and May 1989 postings, both SCE and SDG&E calculated gas prices using the "avoidable" components of current UEG rates, as determined in D.88-07-024. Specifically, these included the gas commodity rate, the volumetric transmission rate and gas-related demand charges. (See Attachment 2.) Oil prices were based on the average cost of purchases during the previous calendar quarter. For illustrative purposes, SCE's calculations for its November Posting are presented in Attachment 3.

WCC/CSC/CCC, CSB, and Kelco (collectively, Protestants) argue that certain components of transportation-related gas rates should be added to oil fuel prices when oil is designated as the incremental fuel.[15] SCE, SDG&E, and DRA argue that none of the gas-related costs are avoidable when oil is on the margin.

1. WCC/CSC/CCC, CSB, and Kelco

Protestants contend that, by excluding gas-related demand charges when oil is the incremental fuel, SDG&E and SCE have violated the Commission's orders in D.88-07-024. In support of

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15 Although their arguments are very similar, Protestants seem to differ slightly on what components of transportation-related gas rates should be included. It appears that WCC/CSC/CCC would include the fixed gas costs recovered in both the monthly demand charge (less customer-related costs) and in the Tier I rate. (See Joint Protest of WCC/CSC/CCC, dated October 31, 1989, p. 16.) CSB would include the demand charge (less customer-related costs) plus, as described above, a "weighted average" component of Tier I charges. Kelco does not specify which gas rate components should be included, but refers generally to "demand-related gas costs" in its filings. **We use the term "gas-related demand charges" (or "demand charges") to refer, in a generic sense, to the various proposals for including transportation-related gas costs when oil is the incremental fuel.**

this position, Protestants point to the following findings and conclusions made by the Commission in D.88-07-024:

a. QFs enable the electric utility to reduce gas consumption on a forecasted basis;

b. Under the new UEG gas rate design, all costs (except customer-related) are allocated to the UEG customer on the basis of projected gas consumption (e.g., sales or throughput);

c. Except for customer-related costs, all gas utility fixed costs allocated to the UEG customer are 100% avoidable by QFs.

Protestants observe that, unlike gas commodity rates, demand charges are solely a function of annual throughput forecasts made in the Annual Cost Adjustment Proceedings (ACAP). Once set, these charges must be paid by the electric utility over the filing period, even if actual gas consumption approaches zero. While actual levels of oil and gas consumption may affect the level of prospective demand charges, they will have no impact on the level of costs to be recovered over the filing period. Therefore, Protestants conclude that it was the Commission's intent to pay QFs for contributing to reduced gas-related demand charges, even when oil is designated as the incremental fuel.

Moreover, Kelco asserts that payments made to QFs for avoidable fixed gas costs are already reduced when the utility makes its projections of oil usage in the annual ACAP. In Kelco's view, the elimination of such payments would constitute a form of "double dipping" and provide the utility with an unjustifiable windfall.

2. SDG&E, SCE, and DRA

SDG&E, SCE, and DRA argue that D.88-07-024 dealt solely with the issue of which gas costs are avoidable by QFs when gas is the incremental fuel. In their view, D.88-07-024 did not address potential changes in avoided oil costs; nor did it suggest that the

change in gas rate design would affect the computation of those costs. SCE notes that neither Protestants, nor any other party providing testimony in that proceeding, addressed issues related to times when oil is the incremental fuel.

Moreover, SCE, SDG&E, and DRA argue that the protests are a challenge to the Commission's existing avoided cost methodology and, as such, are procedurally improper. SDG&E points out that the Commission never before included a portion of gas-related demand charges when oil was the incremental fuel, even when fixed gas costs were rolled into volumetric UEG rates. Similarly, DRA argues that the Commission's adopted definition of avoided energy payments uses only the cost of fuel that the utility would have burned. In DRA's view, the Commission never intended to give QFs a windfall for charges unrelated to the avoided fuel.

In addition, SCE argues that the Protestant's methodology is analytically flawed. According to SCE, Protestant's approach would pay QFs for avoiding gas costs that, on a forecast basis, have already been avoided by projections of alternative fuels:

> "Oil burns avoid demand-related gas costs in precisely the same manner as does QF generation. Oil burn and QF production both avoid demand-related gas costs on a forecast basis in SoCalGas cost allocation proceedings because they lower the forecast of Edison gas throughput, and gas throughput is used to allocate demand related gas costs. Thus, when oil is the incremental fuel Edison already avoids the demand-related gas costs and QF generation only avoids oil costs."[16]

Finally, if Protestants' interpretation of D.88-07-024 is correct, SCE asserts that QFs would be paid a price for output that would exceed the utility's cost to generate the electricity itself.

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16 Response of SCE to the Joint Protest of WCC/CSC/CCC, dated November 15 (pp. 16 and 17).

In SCE's view, this would be in direct conflict with Commission policy to have QFs compete on the basis of efficiency.

V. Discussion

There are two key issues we must resolve in evaluating the appropriateness of SCE's and SDG&E's quarterly avoided cost postings. First, we must decide whether the marginal fuel designations are appropriate and, second, whether the prices accurately reflect avoided energy costs. As described above, most of the disagreement among parties stems from alternate interpretations of our prior orders. We therefore begin our deliberations by reviewing the development of our methodology for determining short-run avoided energy costs.

Our initial procedures for avoided cost energy pricing were adopted in D.91109 in December, 1979. In that decision, we specified that the marginal fuel price would be based on the purchasing utility's fuel-burning efficiency multiplied by the average cost of oil into inventory in the prior quarter.[17]

In D.82-01-103, we clarified the conceptual basis for determining energy payments under our short-run Standard Offers. We stated that as-available QFs receive only the incremental cost of producing an additional unit of electricity:[18]

> "The utility's avoided energy cost at time of delivery in the as-available offer conceptually is based on short-run operating costs. It should reflect the variable cost of providing

17 D.91109, mimeo. p. 18.

18 Used in the context of D.82-01-103, "as available offer" is synonymous with the term "short-run" Standard Offer, as we define it in Footnote 3 above.

> an additional unit of electricity... The intent of the energy prices is to capture as accurately and timely as possible the current marginal energy cost incurred by the utility." (D.82-01-103, mimeo. pp. 30 and 31.)

In 1982, the potential for natural gas to be the incremental fuel became apparent and, in D.82-11-087, we addressed the issue of how to calculate short-run avoided energy prices when gas is the incremental fuel. By that order, we determined that the fuel price should be based on current (i.e., beginning of the quarter) gas prices, rather than the price of gas over the preceding quarter:

> "Application of the principle that energy prices should reflect the current marginal energy costs of the utility requires a slightly different approach to calculation of avoided energy costs for periods when natural gas, rather than oil, is the utility's marginal fuel. An electric utility typically stores oil between the time the oil is purchased and the time it is burned. Thus, calculating historical price of oil is appropriate. By contrast, electric utilities burn gas at the time of purchase from the supplying gas utility, without any intervening period of storage. Therefore, avoided energy costs should be based on the current, rather than the historical, cost of natural gas to the electric utility." (D.82-11-087, mimeo. p. 2.)

In D.82-12-120, we reaffirmed these pricing procedures and concluded that basing marginal fuel prices on the most recent historical quarter (for oil) or current prices (for gas) was preferable to basing prices on a projection over the quarter:

> "In D.82-11-087, the Commission ordered the utilities to use current natural gas prices for the determination of prospective avoided operating costs, but to continue to use oil into inventory when oil is the marginal fuel. We will continue to adopt this approach for now, though we would consider refining the oil and natural gas price numbers to include projections instead of current prices in the

> future. For now, we conclude that projecting oil and natural gas prices would be unduly complicated." (D.82-12-120, mimeo. p. 107.)

We also determined that, when gas is incremental, avoided energy prices should be calculated using the current rate charged to the UEG customer, even if that rate is higher than gas commodity rates.[19]

In that same decision, we addressed the issue of how utilities should determine whether oil or gas is the incremental fuel. One party suggested that oil should be presumed to be the incremental fuel on any day it represents 10% of the generation mix. We declined, however, to adopt a particular methodology for determining the incremental fuel. Instead, we directed utilities to make a case-specific determination:

> "It appears that the question of whether oil or gas is the marginal fuel will involve specific issues that vary in each quarter. Accordingly, our approach will be to ask each utility to file its projected marginal fuel mix in each quarter and allow parties an opportunity to critique these projections.
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> "We expect utilities to forecast as accurately as possible their actual marginal operating costs for future quarters, including their expected fuel mix, and to provide their assumptions to interested parties." (D.82-12-120, mimeo. pp. 108 and 111; emphasis added.)

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19 See D.82-12-120, pp. 109-110 for a discussion of this issue. At that time, the UEG rate had a "single tier" structure. Beginning in 1985, UEG rates were composed of multiple tiers. In D.86-08-053, in response to protests to SCE's quarterly posting, we addressed the issue of whether the incremental (i.e., last tier) or weighted average cost of gas is to be used in calculating avoided energy prices. We concluded that, under current procedures, the weighted average cost should be used.

Finally, in D.82-12-120, we also adopted the requirement for preliminary posting, and directed utilities to provide the basis for prices and associated assumptions to the Commission and interested parties for review:

> "We will order the utilities to file prices for energy payments one month prior to the quarter in which the energy prices apply. These prices and a detailed description of the assumptions used to derive them should be filed with the Commission. In addition, the utility should make available this information to interested parties for their review." (D.82-12-120, mimeo. p. 110.)

A. Determination of Marginal Fuel Mix

Based on the specific language of our prior orders, we conclude that the utility is expected to forecast its marginal fuel mix, but to use recorded oil and current gas prices in determining the energy price paid to QFs.[20] Contrary to WCC/CSC/CCC's assertions, D.82-12-120 does not require the utility to use the recorded oil price in forecasting its fuel mix. Nor is the utility restricted to assuming current (i.e., as of the first day of the quarter) curtailment conditions throughout the quarter. Rather, as DRA notes, our adopted methodology contemplates only that the forecast of the fuel mix will be made reasonably and in good faith.

As we stated in D.82-12-120, the question of whether oil or gas is the marginal fuel involves specific issues that vary in each quarter. Consistent with our directives in D.82-12-120, both SCE and SDG&E have explained the reasoning behind their projections, and provided the Commission and interested parties

20 As illustrated in Attachment 3, the forecasted fuel mix is applied to the recorded oil and current gas prices to derive weighted average avoided energy costs.

with their underlying assumptions.[21] As SCE, SDG&E, and DRA point out, none of the Protestants offer any factual bases for challenging these projections. We therefore conclude that SCE and SDG&E have determined the marginal fuel mix in a manner consistent with our prior orders, using reasonable projections of fuel prices and availabilities.[22]

B. Gas-Related Demand Charges

As described above, quarterly avoided cost energy prices are based on a forecast of the incremental fuel (or fuel mix) over the quarter. In the past, if the incremental fuel was gas, it was priced using the current weighted average UEG rate. If the marginal fuel was oil, it was priced at the average cost of oil purchased during the previous quarter. At no time did avoided oil costs include components other than the cost of oil.

In their protests, WCC, CSC, CCC, CSB, and Kelco argue that D.88-07-024 modified this methodology. Specifically, they believe that certain components of transportation-related gas rates should now be added to oil fuel prices when oil is designated as the incremental fuel. SCE, SDG&E, and DRA argue that D.88-07-024 only addressed the issue of what gas costs are avoidable when gas is on the margin.

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21 In addition to the information presented in the quarterly postings, see Response of SCE to Joint WCC/CSC/CCC Protest, dated November 15, 1988, Attachments 1 and 2; Joint Protest of WCC/CSC/CCC, dated October 31, 1988, Attachment B, Data Request No. 2, Response of SDG&E to Protest by Kelco, dated May 10, 1989, Exhibit B.

22 Our finding of reasonableness today relates only to the projection of marginal fuel mix for the postings in question. The reasonableness of a utility's fuel purchase decisions is addressed in our ECAC proceedings.

In order to evaluate these two interpretations, we turn now to the specific language and directives in D.88-07-024. As noted by Protestants, D.88-07-024 unequivocally states that certain gas-related fixed costs are 100% avoidable by QFs, even when they are recovered through fixed monthly demand charges:

> "We do gas cost allocation in annual proceedings for each LDC. To the extent that the adopted gas requirements forecast for a UEG customer is reduced by one therm, that customer will avoid an increment of each functionalized cost allocated by throughput. Since all cost categories except customer-related costs are allocated by throughput, we conclude that additional QF energy will cause a prospective reduction in the UEG allocation, and the UEG customer will thereby avoid some portion of all components of its gas costs except the customer-related costs.... The fact that, once allocated, UEG demand charges are fixed and unavoidable for a year does not contradict our conclusion that these costs are reduced (and to that extent 'avoided') by forecast QF generation during that year.
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> "QFs enable the electric utility to avoid gas consumption. This causes the utility to incur lower commodity charges (paid on a volumetric basis) and lowers the allocation to the utility of gas system fixed costs. However, the fixed costs are not paid on a volumetric basis; instead, they depend on a forecast of UEG consumption in relation to total system throughput." (D.88-07-024, mimeo. pp. 18 and 19; emphasis in original.)

However, we note (as does SCE, SDG&E, and DRA) that D.88-07-024 does not state in the discussion, findings of fact or conclusions of law, that these fixed costs are "100% avoidable" when oil is on the margin. Nonetheless, Protestants argue that their interpretation logically follows from our rationale for designating portions of fixed gas charges as 100% avoidable.

A closer reading of D.88-07-024 provides further insight regarding our intent. As noted by SCE and DRA, we were not

silent in acknowledging that oil could sometimes be the incremental fuel:

> "UEG gas costs generally provide the basis for computing prices for QF energy at this time. We stress that this results solely from economic dispatch, given existing utility systems and fuel mixes. In other words, gas has not been administratively ordained to be the avoided fuel. We have long recognized that both the fuel and the fuel price factored into the avoided-cost formula could vary over time." (D.88-07-024, p. 2.)

Nor were we silent concerning our intent to use the conceptual framework and formulas established in D.82-01-103 and D.82-12-120 for calculating avoided cost energy prices. For example, on page 2 of D.88-07-024, we define the energy payment formula as follows:

> "(T)he energy price for QF generation equals the purchasing utility's fuel-burning efficiency (expressed as British thermal units per kilowatt-hour) multiplied by the cost of fuel that the utility would have burned to replace such generation." (D.88-07-024, mimeo. p. 2; emphasis added.)

Moreover, in summarizing our determinations we go on to explain:

> "We believe that a QF that enables the UEG customer to use one less therm thereby avoids the costs associated with that therm, which under our rate design are all of the gas charges except the customer charge." (D.88-07-024, mimeo. p. 18; emphasis added.)

And finally, in our concluding paragraphs we state:

> "The electric utilities and DRA apparently anticipated that many gas utility fixed costs in an unbundled rate design would be unavoidable by QFs. However, under our new gas rate design, the UEG customer (and the consumer of its electric generation) 'sees' most of these costs as varying with gas consumption even though they recover embedded costs of the LDC, and the charges, once set, are fixed for

> one year. Generally, the variable energy costs of electric generation, whether the charges are commodity or demand-related, are avoidable by QFs.
>
> "That these changes in gas rate design have only a small effect on avoidable gas costs is not really surprising. Logically, the primary factors that determine an electric utility's energy expenses are economic dispatch of generation facilities...and changes in the electric utility fuel mix over time. The short-run avoided energy cost pricing mechanism created in D.82-01-103 and D.82-12-120 reflects these factors promptly and accurately."
> (D.88-07-024, p. 22; emphasis added.)

In sum, the plain reading of D.88-07-024 within the context of our prior orders does not support Protestants' interpretation. We did not change our long-standing practice of basing avoided cost energy prices on the variable costs of the incremental fuel. Rather, as explained above, in D.88-07-024 we clarified which components of our new unbundled gas rate design comprise the variable costs of gas. As such, these costs are avoided by QFs when gas is designated to be the incremental fuel.

In conclusion, we find that SCE and SDG&E have complied with our adopted methodology by reasonably forecasting the incremental fuel mix over the quarters in question, and by applying the correct fuel prices to the energy payment formula. Protestants' motions to adjust the quarterly avoided cost energy prices are therefore denied.

Our denial of these motions is not intended to prejudge the methodological issues raised by Protestants. As described above, parties disagree over the theoretical correctness of the various methodologies presented. However, this is not the proper forum for litigating the merits of these arguments. The protest procedure established in D.82-12-120 only contemplates motions challenging the assumptions underlying the utilities' forecasts and fuel pricing, not the conceptual robustness of our adopted

methods. As we stated in D.88-07-024, we plan to revisit our adopted method on avoidable gas costs after we have completed our analysis of gas marginal costs.[23] Pursuant to prior orders, any changes to avoided cost pricing methodologies, including those (in effect) proposed by Protestants, are to be considered in our Biennial Resource Plan Update (BRPU)[24] proceedings.

C. Modifications to Our Adopted Posting Procedures

In addition to addressing the issues raised by Protestants, we also take this opportunity to review, and revise our procedures for resolving disputes over quarterly avoided cost postings.

In D.82-12-120, we ordered the utilities to file a preliminary posting of avoided cost energy prices one month prior to the quarter in which the prices went into effect. If DRA or interested parties objected to the proposed prices, they were to file a protest or motion to adjust the price formally with the Commission. The motion or protest was to be served on all parties to A.82-04-44 et al. If no action was taken by the Commission by the time the quarter began, the posted utility prices were to go into effect. However, the prices could be adjusted upward (but not

23 See D.88-07-024, p. 21. Subsequent to our issuance of D.88-07-024, we extended the filing deadlines for these marginal cost studies to the end of May 1989. (See D.88-12-086.)

24 The current BRPU cycle began on July 8, 1989 (in I.89-07-004), the date of final adoption of the California Energy Commission's Seventh Electricity Report. A new BRPU cycle will be initiated, following the adoption of each subsequent Electricity Report.

downward) and applied retrospectively if the Commission later reached a determination that the prices were too low.[25]

As originally designed in 1982, this procedure automatically refers all protests and motions to an administrative law judge for review prior to Commission consideration. However, we now regularly use the advice letter procedure under General Order (GO) 96-A for routine compliance matters involving the posting of rate schedules or contracts. Since we are well past the infancy stage of our QF program, we believe the advice letter procedure is well suited to the quarterly postings of avoided cost energy prices.

We therefore propose modifying the quarterly posting procedure established in D.82-12-120 as follows. First, SCE, SDG&E, and Pacific Gas and Electric Company (PG&E) would be required to file quarterly avoided cost energy prices by advice letter (rather than by compliance filings) 30 days prior to the first day of the quarter. Quarterly filings would be made by advice letter regardless of the magnitude or direction of the change in avoided cost energy prices. As in the past, the quarters would begin on February 1, May 1, August 1, and November 1 of each year. SCE, SDG&E, and PG&E would be required to mail a copy of the advice letter to all parties of record in the most current BRPU proceeding and to other interested parties having requested such notification.[26] Consistent with GO 96-A, DRA and interested parties would have the opportunity to protest the posting within 20 days after the date of filing. The utility would be required to

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25 See D.82-12-120, mimeo. pp. 110 and 111, and D.86-08-053, p. 3.

26 This consolidated application proceeding was effectively closed on July 7, 1989. (See D.89-07-026.) The service list was transferred to I.89-07-004, our current BRPU cycle.

respond in writing to any protest within 10 business days after its receipt.

In all other respects, the procedures established in D.82-12-120 would remain unchanged. Utilities would still be required to file (as part of their advice letter) a detailed description of the assumptions used to calculate the posted prices, and make this information available to interested parties for review. Protestants would still need to clearly specify the concerns that prompted the protest, and recommend a resolution of those concerns. If no action is taken by the Commission, the prices go into effect on the first day of the quarter (i.e., 30 days after filing). The Commission would reserve the right to adjust prices upwards (but not downwards), if deemed appropriate. Except as noted above, all provisions of GO 96-A would apply to these quarterly advice letter filings.[27]

Attachment 4 presents proposed revisions to D.82-12-120, along the lines of the changes described above. We invite written comments on this proposal. After consideration of the filed comments, we will issue an order notifying all parties of record in this proceeding and I.89-07-004 of revisions, if any, to the posting and protest procedures adopted in D.82-12-120. To be considered, comments must be filed at the Commission's Docket Office no later than October 31, 1989, and served on all parties of record in A.82-04-44 et al. and I.89-07-004.

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27 Under GO 96-A, notice is regularly 40 days in advance of the effective price change. Protests must be received no latter than 20 days after the advice letter filing and the utility must respond in writing to any protests within 5 business days after its receipt.

Findings of Fact

1. On October 3, 1988, SCE and SDG&E filed their preliminary avoided cost energy prices for the quarter beginning November 1, 1988 (November 1988 Posting).

2. On April 3, 1988, SCE and SDG&E filed their preliminary avoided cost energy prices for the quarter beginning May 1, 1989 (May 1989 Posting).

3. Protests to SCE's and SDG&E's November 1988 and May 1989 Postings were filed by WCC, CSC, CCC, CSB, and Kelco, (collectively Protestants).

4. Responses to the protests were filed by SCE, SDG&E, and DRA.

5. Protestants object to the designation of oil as the marginal fuel and to the exclusion of transportation-related gas charges when oil is designated as the marginal fuel.

6. WCC/CSC/CCC interpret D.12-02-120 to require the use of "current" fuel price and supply conditions for designating the incremental fuel. Based on this interpretation, WCC/CSC/CCC argue that gas should be incremental for the quarter beginning November 1, 1988.

7. CSB asserts that Tier I gas will be incremental for 21% of the quarter beginning November 1, 1988. Similarly, CSB argues that Tier I gas will be incremental for some portion of the quarter beginning May 1, 1989.

8. SCE and SDG&E used recorded oil and current gas prices in determining the energy prices to QFs over the quarters in question.

9. In their filings, responses to protests and data requests, SCE and SDG&E provided an explanation of their projected fuel mix and underlying assumptions.

10. None of the Protestants provide facts to challenge SCE's and SDG&E's projections of marginal fuel mix or underlying assumptions.

11. Protestants assert that, by excluding transportation-related gas costs when oil is the incremental fuel, SCE and SDG&E have violated our directives in D.88-07-024.

12. In D.91109, issued in December, 1979, we specified that the marginal fuel price to short-run QFs would be based on the purchasing utility's fuel-burning efficiency multiplied by the average cost of oil into inventory in the prior quarter.

13. In D.82-01-103, we determined that QFs under short-run standard offers receive only the variable cost of producing an additional unit of electricity.

14. In D.82-11-087, we determined that the gas price should be based on current (i.e., beginning of the quarter) gas prices, rather than the price of gas over the preceeding quarter.

15. In D.82-12-120, we specified that the utility is expected to forecast its marginal fuel mix, but use recorded oil and current gas prices in determining the energy price to QFs.

16. In D.88-07-024, we designated all gas costs allocated by sales or throughput as 100% avoidable by QFs, regardless of whether those costs were recovered through volumetric or fixed charges.

17. D.88-07-024 does not state anywhere in the discussion, findings of fact, or conclusions of law that gas-related volumetric or fixed charges are 100% avoidable when oil is on the margin.

18. In D.88-07-024, we acknowledged that gas is not the administratively ordained avoided fuel and that oil can be incremental under certain conditions.

19. In D.88-07-024, we refer to the energy pricing concepts and formulas adopted in D.82-01-103 and D.82-12-120, in which the avoided cost of fuel contains only the variable cost components associated with that fuel.

20. The quarterly posting procedure adopted in D.82-12-120 automatically refers all protests and motions to an Administrative Law Judge for review prior to Commission consideration.

21. The Commission regularly uses the advice letter procedure under GO 96-A for routine compliance matters involving the posting of rate schedules or contracts.

Conclusions of Law

1. SCE and SDG&E have determined the marginal fuel mix for the quarters beginning November 1, 1988, and May 1, 1989, in a manner consistent with our prior orders, and using reasonable projections of fuel prices and availabilities.

2. Under our current procedures, the avoided cost of fuel should contain only the variable cost components associated with that fuel.

3. SCE and SDG&E have properly excluded gas-related transportation costs from avoided cost prices when oil is designated as the marginal fuel.

4. In order to expedite the receipt and review of comments on our proposed modifications to D.82-12-120, this order should be effective today.

O R D E R

IT IS ORDERED that:

1. The protests and motions of Watson Cogeneration Company, the Cogenerators of Southern California, the California Cogeneration Council, the Cogeneration Service Bureau, and the Kelco Division of Merck & Company, Inc., described more fully in Attachment 1 to this order, are hereby denied.

2. All interested parties may file written comments on our proposed modifications to D.82-12-120, presented in Attachment 4 to this order. An original and twelve copies of the comments must be filed at the Commission's Docket Office and served on all parties of record in A.82-04-44 et al. and I.89-07-004 by October 31, 1989.

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

ATTACHMENT 1
Page 1

LIST OF PROTESTING PARTIES AND FILINGS

The following list of interested parties filed protests/motions in response to Southern California Edison Company's (SCE) and San Diego Gas & Electric Company's (SDG&E) November 1988 and May 1989 Postings:

Cogenerators of Southern California (CSC)
California Cogeneration Council (CCC)
Cogeneration Service Bureau (CSB)
Kelco Division of Merck & Company, Inc. (Kelco)
Watson Cogeneration Company (WCC)

SCE, SDG&E, and the Division of Ratepayer Advocates (DRA) responded to these filings, as outlined below.

Filings in Response to SCE's Avoided Cost Energy Prices Effective November 1, 1988 to January 30, 1989:

1. Joint Protest of WCC/CSC/CCC to SCE's Quarterly Posting of qualifying facility (QF) Payments—Motion to Adjust SCE's Avoided Energy Price Calculation and Request for Hearing (Joint Protest of WCC/CSC/CCC), dated October 31, 1988

2. Motion of CSB in Protest of SCE's Avoided Cost Energy Prices, dated November 4, 1988.

3. Response of SCE to the Joint Protest of WCC/CSC/CCC, dated November 15, 1988.

4. Response of DRA to the Motion of CSB in Protest of SCE's Quarterly Posting of QF Payments, dated November 21, 1988.

5. Response of SCE to the Motion of the CSB, dated November 21, 1988.

6. Reply of CSB in Protest of SCE's Avoided Cost Energy Prices, dated December 1, 1988.

Filings in Response to SDG&E's Avoided Cost Energy Prices Effective November 1, 1988 to January 30, 1989:

1. Protest of Kelco to SDG&E's Quarterly Posting of QF Payments—Motion to Adjust SDG&E Avoided Energy Price Calculation and Request for Hearing, dated November 14, 1988.

2. Response of SDG&E to Motion, Request for Hearing and Protest of Kelco, dated November 29, 1988.

3. Response of DRA to Protest of Kelco to SDG&E's Quarterly Posting, dated November 30, 1988.

4. Response of SCE to the Protest of Kelco to SDG&E's Quarterly Posting, dated November 30, 1988.

5. Reply of Kelco to Responses of SDG&E, SCE, and DRA, dated December 20, 1989.

Filings in Response to SCE's Posting for Avoided Cost Energy Prices Effective May 1, 1989 to July 31, 1989:

1. Protest of CCC to SCE's Preliminary Avoided Cost Energy Pricing for Cogenerators and Small Power Producers, dated April 28, 1989.

2. Motion of CSB in Protest to SCE's Avoided Cost Energy Prices, dated May 8, 1989.

3. Protest of WCC and CSC to SCE's Avoided Cost Pricing Updates, dated May 10, 1989.

4. DRA's Letter Regarding Motions of the CCC and CSB in Protest to SCE's Avoided Cost Energy Prices, dated May 12, 1989.

5. Response of SCE to the Protest of CCC to Preliminary Avoided Cost Energy Pricing, dated May 15, 1989.

6. Response of SCE to the Motion of CSB, dated May 23, 1989.

7. Response of SCE to the Protest of WCC and CSC, dated May 25, 1989.

Filings in Response to SDG&E's Posting for Avoided Cost Energy Prices Effective May 1, 1989 to July 31,1989:

1. Kelco's Protest to SDG&E's Quarterly Posting, Letter to Dean J. Evans of the Commission's Advisory and Compliance Division, dated April 19, 1989

2. Response of SDG&E to Protest by Kelco, dated May 10, 1989

(END OF ATTACHMENT 1)

Overview Of UEG Gas Rate Design

In Order Instituting Investigation 86-06-005, we developed a new gas rate design, which, in effect, unbundled the traditional combination service provided by the gas distribution company (generally referred to as local distribution companies or LDCs), and de-averaged rates.[1]

More specifically, the new gas rate design distinguishes between commodity and transportation-related gas costs. Commodity costs represent the portfolio price of gas--i.e., the price of the "gas molecules" being transported by the LDC. These are paid by the utility electric generation (UEG) customer on a volumetric basis (i.e., per therm).

Transportation-related costs consist of transmission, distribution, storage, administrative and general (A&G), and other non gas costs of the LDC. These costs are estimated and allocated to customer classes on an annual basis, in our Annual Cost Adjustment Proceedings (ACAPs). They are allocated using either gas throughput or customer-related factors, and recovered in rates through a combination of fixed and volumetric charges:

1. Customer Charges. Customer charges recover specifically assignable customer costs, such as billing, meter reading, etc. They are allocated to the UEG customer based on the number and type of UEG facilities connected to the gas delivery system. The customer charge is a fixed monthly amount.

2. Demand Charges. Demand charges also recover a portion of the LDC's fixed costs, most of which are "demand-related" (e.g., transmission, distribution, storage). However, unlike customer costs, the fixed costs recovered through demand charges are allocated based on projected gas throughput to the UEG customer. In other words, the

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1 See D.86-12-009 and D.87-12-039.

higher the projected gas sales to the UEG customer, (as determined in the ACAP), the higher the fixed cost allocation, and vice versa. LDC's recover these costs by charging UEG customers a fixed monthly demand charge.

3. Volumetric Transmission Charges. Volumetric transmission charges are designed to recover line losses, franchise fees, and a portion of A&G expenses. In principle, volumetric rates (as opposed to demand charges) are used to recover the fixed costs considered within the LDC's control. These costs are allocated to the UEG customer based on projected gas throughput, and recovered on a per therm basis.

The volumetric transmission charges are structured as two-tier, declining block rates. Tier II is set to recover all costs except for the A&G component. Tier I is set residually (and usually higher) to capture the remaining fixed costs.

(END OF ATTACHMENT 2)

SAMPLE AVOIDED ENERGY COST CALCULATIONS

From: SCE's Preliminary Avoided Cost Energy Pricing Update, dated October 3, 1988 for November 1, 1988 to January 31, 1989 [filing attached]

Avoided Energy Cost =

[T1 (Gas Price x Ht. Rate x Ht. Rate Conversion Factor) + T2 (Oil Price x Ht. Rate x Ht. Rate Conv. Factor) + Variable O&M] x Line Loss Factor

Where T1 = proportion of time when gas is expected to be avoided

T2 = proportion of time when oil is expected to be avoided

Gas Price = (Demand Chg. + Tier I Unit Cost x Tier I Volume + Tier II Unit Cost x Tier II Volume)/Total Volume

Demand Chg. = Edison's Annual Demand Chg. - Edison's Proportion of UEG Customer-Related Costs

Edison's Annual Demand Charge = { 12 different monthly charges given on SoCalGas' Rate Schedule GT-60
= $150,035,000

Edison's Proportion of UEG Customer Related Costs =

[UEG Customer Related Costs, which come from SoCal's workpapers supporting its A.L. 1767-A, 3rd Supplement through which Sch. GT-60 was filed] x [Edison's Sch. GT-60 Demand Chg. / UEG Total Sch. GT-60 Demand Chg.]

= $3,277,000 x $150,035,000 / $184,065,000 = $2,671,000

Demand Chg. = $150,035,000 - $2,261,000 = $147,364,000

Tier I Unit Cost = Sch. GN-60 Non-Core Procurement Charge & Sch. GN-60 Tier I Transmission Charges

= \$0.23795/therm + \$0.05118/therm = $\$2.89/10^6$ Btu

Tier II Unit Cost = Sch. GN-60 Non-Core Procurement Chg. & Sch. GN-60 Tier II Transmission Charges

= \$0.23795/therm + \$0.01447/therm = $\$2.52/10^6$ Btu

Tier I Volume = 12 different monthly volumes given in Sch. GN-60 = $41,107 \times 10^9$ Btu

Tier II Volume = [Volume adopted in D.88-09-031 (Edison's ECAC)] - Tier I Volume

= $195,155 \times 10^9$ Btu - $41,107 \times 10^9$ Btu = $154,048 \times 10^9$ Btu

$$\text{Gas Price} = \left[\$147,364,000 + \frac{\$2.89}{10^6 \text{ Btu}} \times 41,107 \times 10^9 \text{ Btu} + \frac{\$2.52}{10^6 \text{ Btu}} \times 154,048 \times 10^9 \text{ Btu}\right] / (41,107 + 159,048) \times 10^9 \text{ Btu}$$

$$= \frac{\$147,364,000 + \$118,799,000 + \$388,201,000}{\$195,155 \times 10^9 \text{ Btu}} = \underline{\underline{\$3.35/10^6 \text{ Btu}}}$$

Heat Rate = 11,271 Btu/kWh, for winter mid-peak

Note: Adopted in D.88-09-031, Edison's ECAC proceeding

Heat Rate Conversion Factor = 0.9524

$$\text{Oil Price} = \frac{\text{Avg. Cost}}{\text{Avg. Ht. Content}} = \frac{\$16.60/\text{barrel}}{61 \times 10^6 \text{ Btu/barrel}} = \$2.72/10^6 \text{ Btu}$$

Variable O&M = $0.003/kWh (determined in GRC)

Line Loss Factor = 1.0245; avg. of transmission & primary (determined in GRC)

$$\text{Avoided Energy Cost} = [T1 \text{ (Gas Price, etc.)} + T2 \text{ (Oil Price} \times \text{Ht. Rate} \times \text{Ht. Rate Conv. Factor)} + \text{Variable O\&M}] \times \text{Line Loss Factor}$$

$$= \left[0 + 1.0 \left(\frac{\$2.72}{10^6 \text{ Btu}} \times \frac{11{,}271 \text{ Btu}}{\text{kWh}} \times 0.09524 \right) + \frac{\$0.003}{\text{kWh}} \right] 1.0245$$

= 3.3 cents/kWh for winter mid peak

Southern California Edison Company

P. O. BOX 800

2244 WALNUT GROVE AVENUE

ROSEMEAD, CALIFORNIA 91770

PRELIMINARY

AVOIDED COST ENERGY PRICING UPDATE FOR COGENERATION AND SMALL POWER PRODUCTION

OCTOBER 1988

Enclosed is the proposed update of the energy price schedules effective November 1, 1988, through January 31, 1989, for electrical purchases from Qualifying Facilities located in Edison's service area pursuant to Standard Offer and other contracts. The purpose of this filing is to permit the Commission staff and interested parties to comment on how the prices were derived. In the event there are objections to the proposed prices, a motion to adjust the price may be filed with the Commission. In the motion, the specific concern must be stated and a recommended solution suggested. The Commission will decide on what action there is to be taken. Absent Commission action, this methodology will be utilized to determine the November 1988, energy prices.

ENERGY PRICES

The following proposed energy prices reflect the expected use of oil as Edison's incremental fuel. The oil price is $2.72 per million BTU. These prices are preliminary and will be finalized using data obtained on November 1, 1988, the effective date of the November 1988-January 1989 avoided cost energy price update, as discussed in the attached avoided cost energy payment schedule and calculation statement.

PROPOSED
Avoided Cost Energy Prices*
November 1, 1988 - January 31, 1989

	Winter (cents/kWh)
Mid-Peak	3.2
Off-Peak	2.5
Super-Off-Peak	2.4
Time Period Weighted Average	2.8

* Values exclude adjustments for line losses.

TIME PERIODS FOR QUALIFYING FACILITIES

The summer season shall commence at 12:01 a.m. on the first Sunday in June and continue until 12:01 a.m. on the first Sunday in October of each year. The winter season shall commence at 12:01 a.m. on the first Sunday in October of each year and continue until 12:01 a.m. of the first Sunday in June of the following year.

Summer: On-Peak 12:00 P.M.-6:00 P.M. weekdays except holidays
Mid-Peak 8:00 A.M.-12:00 P.M., 6:00 P.M.-11:00 P.M. weekdays except holidays
Off-Peak All other hours

Winter: Mid-Peak 8:00 A.M. - 9:00 P.M. weekdays except holidays
Off-Peak All hours not included in the Mid-Peak and Super-Off-Peak time periods
Super-Off-Peak 12:00 A.M. - 6:00 A.M. everyday

GENERAL

If you require further assistance in using the enclosed capacity or energy payment schedules, or would like to receive copies of our standard offers, please direct your inquiries to Southern California Edison Company, Cogeneration and Small Power Development, P. O. Box 800, Rosemead, California 91770, or telephone (818) 302-1419.

SOUTHERN CALIFORNIA EDISON COMPANY
AVOIDED COST ENERGY PAYMENT SCHEDULE & CALCULATION
Projected on October 1, 1988 for November 1, 1988 - January 31, 1989

ENERGY CALCULATION

	On-Peak	Mid-Peak	Off-Peak	Super-Off-Peak	
T1 (Proportion of time gas is expected to be avoided)	0	0	0	0	
T2 (Proportion of time oil is expected to be avoided)	1.0	1.0	1.0	1.0	
Gas Price ($/Million Btu)	3.35	3.35	3.35	3.35	
Oil Price ($/Million Btu)	2.72	2.72	2.72	2.72	
Heat Rates (Btu/kWh based on gas)**					Average
Summer	15295	9184	8722	-	10019
Winter	-	11271	8538	8038	9470
Annual	-	-	-	-	9763
Heat Rate Conversion Factors					
Gas Fuel	1.000	1.000	1.000	1.000	
Oil Fuel	.9524	.9524	.9524	.9524	
Line Loss Factors					
Transmission	1.023	1.023	1.023	1.023	
Primary	1.026	1.026	1.026	1.026	
Variable O&M (¢/kWh)	0.3	0.3	0.3	0.3	

** See explanation for Heat Rate on page 3 of 3.

Avoided Energy-Cost Calculation:

[T1 x (Gas Price x Heat Rate x Heat Rate Conversion Factor) + T2 x (Oil Price x Heat Rate x Heat Rate Conversion Factor) + Variable O&M] x Line-Loss Factor

Gas Price - If gas were projected to be the incremental fuel, its price would be $3.35 per million Btu based on the weighted average price of gas as of October 1, 1988, calculated by dividing the total charges by the total volumes as detailed below:

	VOLUMES Billion Btu	RATES $/Million Btu	CHARGES Thousands $
Demand Charge	-	-	147,364 (1)
Tier I	41,107 (2)	2.39 (3)	118,799
Tier II	154,048	2.52 (3)	388,201
Total	195,155 (4)		654,364

(1) Customer related charges are deducted from Edison's annual demand charge pursuant to CPUC Decision No. 88-07-024. Customer related charges are derived from Southern California Gas Company's rate design workpapers underlying the Advice Letter No. 1767-A, Third Supplemental, dated April 29, 1988.

Calculation is detailed as follows:
Edison's Proportion of Customer Related Costs = ($150,035/$184,065) X $3,277 = $2,671
Edison's Annual Demand Charge = $150,035 - $2,671 = $147,364

(2) Based on Southern California Gas Company's Advice Letter No. 1824 dated September 26, 1988.

(3) Non-core weighted average cost of gas based on Southern California Gas Company Advice Letter No. 1824 of $2.3795/Million BTU. Adding this cost of gas to the GN-60 margin filed in Southern California Gas Company's Advice Letter No. 1824 yields the following:
Tier I: $2.3795 + $.5118 = $2.89
Tier II: $2.3795 + $.1447 = $2.52

(4) Adopted in CPUC Decision No. 88-09-031.

Oil price of $2.72 per million BTU is derived by dividing the weighted average oil cost by the average heat content of the oil as detailed below:

Average cost = $16.60/barrel
Average heat content = 6.1 million BTU/barrel

Pursuant to CPUC adopted methodology (CPUC Decision Nos. 82-01-103, 82-11-087, and 82-12-120) the price of oil is based on the average cost of purchases during the previous calendar quarter. Since no oil purchases were made during the previous quarter, the oil price is based on the average cost of oil deliveries expected during October, 1988. This estimate will be updated on November 1, 1988, based on actual data. Edison believes this captures the intent of the CPUC decisions which state that the most recent oil purchases are to be used as an estimate of current oil prices.

Heat Rate is the incremental energy rate as adopted in Edison's Energy Cost Adjustment Clause (ECAC) Decision No. 88-09-031.

Technical errors have been noted in the Heat Rates adopted in CPUC Decision No. 88-09-031. We understand that the Division of Ratepayer Advocates is working to correct these errors prior to November 1, 1988, the effective date of the avoided cost posting.

The Heat Rates are expected to be revised as follows:

Heat Rates (Btu/kWh based on gas)					Average
Summer	15295	9184	8722	-	10019
Winter	-	11371	8747	8235	9634
Annual	-	-	-	-	9763

Based on the revised heat rates, the avoided cost energy prices would be as follows:

Avoided Cost Energy Prices
November 1, 1988 - January 31, 1989

	Winter (cents/kWh)
Mid-Peak	3.2
Off-Peak	2.6
Super-Off-Peak	2.4
Time Period Weighted Average	2.8

Heat Rate Conversion Factor adjusts the adopted incremental gas Heat Rates for oil-fuel efficiency improvement when oil is the avoided fuel.

Line-Loss Factor is an adjustment to reflect any aggregate line losses avoided. Currently, set at 1.023 and 1.026 for Transmission and Primary Distribution voltage levels, respectively, per CPUC Decision No. 87-12-066.

Variable O&M is incremental operations and maintenance cost.

(END OF ATTACHMENT 3)

Proposed Modifications to Decision 82-12-120

2. Ordering Paragraphs 12(f), (g), and (h) of Decision 82-12-120 are replaced with the following:

f. Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE) and San Diego Gas & Electric Company (SDG&E) shall file prospective avoided cost energy prices quarterly by advice letter, 30 days prior to the first day of each quarter (i.e., February 1, May 1, August 1, and November 1). Included with the filing shall be a clear comprehensive description of how the prices were derived, in order to permit interested parties to comment on them. Gas prices for avoided energy costs shall be tentative and finalized using the price in effect on the effective date of the price change.

g. On the date of filing, PG&E, SCE, and SDG&E shall mail a copy of the advice letter to all parties of record in the most recent Biennial Resource Plan Update proceeding and to other interested parties having requested such notification. Interested parties shall have the opportunity to protest the advice letter within 20 days after the date of filing. Protests must clearly specify the concerns that prompted the protest and recommend a resolution of those concerns. The utility shall have the opportunity to respond in writing to any protest within 10 business days after its receipt.

h. Absent Commission action, these price offers shall take effect on the scheduled effective date (i.e., the first day of each quarter). If the Commission later determines that the prices were too low, they may be adjusted upward (but not downward) and applied retrospectively.

Except as otherwise provided in this decision, all provisions of General Order 96-A will apply to these advice letter filings.

(END OF ATTACHMENT 4)