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Decision 90-12-028 December 6, 1990

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ORIGINAL

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)

OPINION

On October 19, 1990, this Commission received three protests from various operators and organizations of Qualifying Facilities (QFs) pertaining to the October 1, 1990, quarterly avoided energy price postings filed by Southern California Edison Company (SCE), Pacific Gas and Electric Company (PG&E) and San Diego Gas and Electric Company (SDG&E)[1]. The prices in the postings became effective as of November 1, 1990, but are subject to retrospective upward adjustment should our consideration lead us to conclude that the prices were too low. (See Decision (D.) 82-12-120, 10 CPUC2d 553 at 623-24.) By this decision we direct SCE to modify its posting using a volumetric method for determining the mix of avoided fuels used in the calculation of the energy prices[2]. Although the postings filed by PG&E and SDG&E do not need to be modified, we request SDG&E to consider its method for projecting its marginal fuel in light of today's decision and to make modifications to that method if it deems appropriate.

1 "Request for Emergency Action" filed by the California Cogeneration Council (CCC), "Emergency Motion to Adjust Avoided Cost Energy Pricing" filed by the Independent Energy Producers (IEP), and the protest to SCE's energy price posting filed by AES Placerita.

2 The so called volumetric method is described in the Avoided Energy Cost Postings Workshop Report, Appendix A to today's decision.

On October 24, 1990, Commissioner Stanley W. Hulett issued an Assigned Commissioner Ruling inviting all interested parties to file written comments on the protests to the avoided energy price postings. Those comments were followed by a workshop on November 15 and 16, and a workshop report was prepared and distributed on November 28 by the Commission's Advisory and Compliance Division (CACD).

Our decision to modify SCE's posting is consistent with the methodology for calculating avoided energy prices which we adopted in D. 82-12-120 and does not constitute a change, in that the methodology did not specify the exact approach by which to determine the mix of avoided fuels. Rather, the methodology recognizes that different approaches might be appropriate and specifically calls for utilities to refine their approaches in response to our decisions modifying their postings. (See 10 CPUC2d at 621, 624.)

After considering the protests to the October 1, 1990, postings and the workshop report, we conclude that each utility complied with the adopted avoided energy price methodology, but that SCE's time-on-the-margin approach is presently and for the foreseeable future less appropriate to the determination of marginal fuel mix than the volumetric approach. The relative stability of the volumetric approach, as compared with the apparent volatility of the time-on-the-margin approach, persuades us that the former should be used by SCE.

Our decision to order SCE to refile its posting does not imply a criticism of SCE's posting, nor should prior postings be re-examined as a result. The protests and workshop comments suggest that changed circumstances warrant the use of the volumetric method by SCE in the postings effective as of November 1, 1990, and continuing prospectively thereafter. We agree with these protests and comments that SCE should account for all its available fuel supplies when projecting its marginal fuel mix.

We note that the quarterly postings are frequently protested, suggesting that a number of uncertainties remain in our short-run QF energy pricing. By later orders or rulings in this proceeding, or during Phase 3 of this proceeding, we will provide interested parties the opportunity to work on refinements for calculating avoided costs and for reviewing such calculations. These refinements should accommodate any relevant changes in our regulation of gas and electric utilities. Although we adopt the volumetric approach for determining avoided fuel mix in today's order, we do not preclude any future reexamination of alternative approaches within this proceeding.

We are concerned that there is confusion regarding how to file motions protesting avoided cost postings. Until further order, such motions shall be filed only in the most recent Biennial Resource Plan Update docket (in this case Order Instituting Investigation (OII) 89-07-004) and served on all parties listed on the associated service list. Also, two copies of such motions and of responses and comments to such motions shall be served on the Energy Branch of CACD.

Findings of Fact

1. CCC filed a "Request for Emergency Action" on October 19, 1990, urging suspension of the October 1, 1990, proposed quarterly avoided energy cost postings by SCE, PG&E and SDG&E.

2. IEP filed an "Emergency Motion to Adjust Avoided Cost Energy Pricing" on October 19, 1990, protesting SCE's October 1, 1990, proposed quarterly energy price posting.

3. AES Placerita filed a protest on October 19, 1990, to SCE's October 1, 1990, proposed quarterly energy price posting.

4. The methodology for calculating avoided energy prices, adopted in D. 82-12-120, generally specifies how to determine the avoided fuel or mix of avoided fuels.

5. The volumetric approach for determining the avoided fuel mix is more appropriate than SCE's time-on-the-margin approach.

6. A workshop on the protests to the October 1, 1990, proposed avoided energy price postings was conducted on November 15 and 16, 1990.

7. The Commission's Advisory and Compliance Division prepared a workshop report. It was distributed on November 28, 1990, and is attached to today's decision as Appendix A.

Conclusions of Law

1. D. 82-12-120 provides for retrospective upward adjustment of avoided energy prices in the event that protests are filed.

2. The protests by CCC, IEP and AES Placerita were filed in a timely manner, and each indicated specific concerns and recommended resolutions of those concerns, in accordance with procedure articulated in D. 82-12-120.

3. SCE, PG&E and SDG&E appropriately filed quarterly avoided energy price postings on October 1, 1990, in accordance with the methodology established in D. 82-12-120.

4. The postings filed by PG&E and SDG&E became effective on November 1, 1990, and do not need to be adjusted.

5. The CACD workshop report, attached as Appendix A, is incorporated in this decision by reference.

6. Use of the volumetric approach in determining the avoided fuel mix for purposes of calculating avoided energy costs is consistent with the methodology adopted in D. 82-12-120.

7. The quarterly avoided energy price posting filed by SCE, which became effective on November 1, 1990, should be refiled using the volumetric approach described in the CACD workshop report and should be based on information available to it as of October 31, 1990.

8. SCE should use the volumetric approach in its future quarterly avoided energy price postings until further order.

9. This order should be made effective immediately so that appropriate retroactive payments to QFs can be made promptly, and so that SCE can reflect this order in its next quarterly posting.

10. The filing procedure for motions protesting avoided cost posting should be clarified.

O R D E R

Therefore, IT IS ORDERED that:

1. The protest of the California Cogeneration Council, filed on October 19, 1990, is approved in part.

2. The protests of the Independent Energy Producers and AES Placerita, filed on October 19, 1990, are approved in part.

3. On or before December 17, 1990, Southern California Edison Company shall refile its posting of avoided energy prices, for prices in effect for the quarter begining November 1, 1990, using

   a. the volumetric approach described in the workshop report appended to today's decision, and

   b. information available to it as of October 31, 1990, regarding the availability of all fuel sources.

4. Southern California Edison Company shall use the volumetric approach in all subsequent postings.

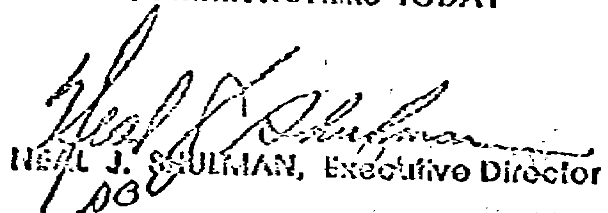
5. Any motion protesting a future avoided cost posting shall be filed and served in the most recent Biennial Resource Plan Update docket. Two copies of any such motion, and of any response or comment to such motion, shall be served on the Energy Branch of CACD.

This order is effective today.

Dated December 6, 1990, at San Francisco, California.

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

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



AVOIDED ENERGY COST POSTINGS

WORKSHOP REPORT

November 28, 1990

Paul Clanon, Chief
Michelle Cooke
Environmental and Energy Advisory Branch
Commission Advisory and Compliance Division
California Public Utilities Commission

AVOIDED COST POSTINGS
WORKSHOP REPORT

RECOMMENDATIONS

1. The Commission should find that each utility complied with the adopted avoided energy cost methodology.

2. The Commission should order Edison to refile its posting for the quarter beginning November 1, 1990 estimating marginal fuel by the so-called "volumetric" method. This change should in no way imply a criticism of Edison's posting, nor should prior postings be re-examined as a result.

INTRODUCTION

As directed by the Assigned Commissioner, CACD submits this report on a workshop held November 15-16, 1990 to examine protests filed against the avoided energy cost postings of Southern California Edison (SCE or Edison), Pacific Gas and Electric Company (PG&E), and San Diego Gas and Electric Company (SDG&E). The postings became effective November 1, 1990.

BACKGROUND

Under the Commission's adopted program for utility purchases of electricity from Qualifying Facilities (QFs)[1], each electric

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1 So called because they qualify, based on technology type and efficiency, for the programs mandated by the federal Public Utilities Regulatory Policy Act (PURPA) of 1978. The Commission's policy of accommodating non-utility power sources actually predates PURPA.

utility must post quarterly energy price offers intended by the Commission to represent the utilities' own avoided costs for the coming quarter. This provides the ratepayers with the benefits of QF electricity at no greater cost than utility production[2]. In a series of orders beginning in 1979 (D.91109, 2nd CPUC 3, 15 et. seq.) the Commission established a methodology for the utilities to follow in making these postings.

From the beginning the Commission understood that estimating a utility's avoided energy cost required two things: (1) identifying which fuel was likely to be on the margin, and (2) establishing a reasonable price for the marginal fuel. Neither is straightforward. Ideally, the marginal fuel included in the postings should be the fuel used by the last-dispatched generation unit at each instant of the coming quarter. The Commission recognized early that uncertainties inherent in fuel market and dispatch decision forecasting precluded the use of any one forecasting technique to be applied in all cases forever. Instead the Commission established a procedure under which each utility would "file its projected marginal fuel mix in each quarter and allow parties an opportunity to critique these projections" (2nd CPUC 10, 621). That is, the Commission explicitly allowed utilities to make their own marginal fuel forecasts based on their own analysis, subject to the scrutiny of interested parties. As noted below, parties have protested these forecasts in past postings.

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2 QF capacity, or the contractual obligation to provide firm power on demand, is compensated in other ways and is not the subject of this workshop report.

Once a marginal fuel (or mix of fuels) is chosen, the cost of that fuel[3] as used in electricity production by the utility is the cost avoided by QF energy. This utility cost becomes the price offered in the postings for QF electricity. Again, price forecast uncertainty was recognized early by the Commission, and a series of orders has developed the following instructions for the utilities: If the marginal fuel is forecasted to be natural gas, use the gas price in effect on the first day of the quarter. If oil, use the weighted average cost of oil purchased during the preceding quarter. These valuation rules were most recently confirmed in D.89-09-099.

To the present day, all California utilities have forecasted either oil or natural gas (or a combination of the two) to be the marginal fuel in each quarter. In the early 1980s oil predominated, to be replaced entirely by natural gas for most of the balance of the decade, until natural gas curtailments again brought some oil to the margin in recent years.

THE POSTINGS

On October 1, 1990 PG&E, SCE, and SDG&E all filed proposed energy price postings to be effective in the quarter beginning November 1, 1990.

PROTESTS

Petitions pertaining to the avoided energy cost filings of one or more utilities were filed October 19, 1990 by California

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3 Expressed in dollars per kilowatt-hour, and calculated using the incremental energy rate (IER), a measure of the efficiency with which a utility's marginal units convert their fuel to electricity.

Cogeneration Council (CCC), Independent Energy Producers (IEP), Cogenerators of Southern California (CSC), and AES Placerita. The petitions have been treated as protests.

CCC's "Request for Emergency Action" cites recent events affecting the world oil market and asks the commission to suspend the quarterly postings and use the most recently adopted postings while re-examining the posting methodology. CCC argues that postings based on last summer's oil prices do not adequately reflect the utilities' true avoided costs for the coming quarter. CCC believes that the avoided costs posted by Edison in particular could increase the amount of oil burned by forcing Edison to replace with oil-fired generation the electricity normally supplied by QFs who would reduce their production in response to the lower price signal.

CCC requests that the Commission suspend the postings and order the utilities to continue paying QFs prices based on last quarter's postings, slightly modified to account for the seasonal change.

CSC and AES Placerita jointly petitioned the commissioners via a "Request for an Emergency Order Authorizing an Interim Suspension of Certain Rules Pertaining to the Calculation of Qualifying Facility Avoided Energy Cost Payments". The Request cites oil price volatility and natural gas curtailments as creating an emergency in QF pricing. CSC and AES argue that the Commission did not expect natural gas curtailments when setting up the avoided cost methodology, and that the current method of valuing oil burns fails "to capture a reasonable proxy of <u>current</u> fuel costs in the avoided cost calculation" (pg. 4, emphasis in original).

CSC and AES Placerita recommend that the Commission order Edison to use natural gas as its marginal fuel for the next two quarters.

IEP's "Emergency Motion to Adjust Avoided Cost Energy Pricing" contends that Edison's use of oil as the incremental fuel 100% of the quarter is incorrect because Edison won't actually burn oil in all hours. IEP recommends replacing Edison's forecast of oil as the marginal fuel with a fuel mix estimate that would include total fossil burns, not just those on the margin.

THE ASSIGNED COMMISSIONER'S RULING

The Commission declined to suspend the effectiveness of the filed postings. Instead Assigned Commissioner Stanley W. Hulett issued a ruling[4] inviting interested parties to file comments on the protests by November 5, 1990 and directing the Commission Advisory and Compliance Division (CACD) to conduct a workshop on November 15, 1990 to consider:

> 1. The propriety of the protested filings under current rules; and
>
> 2. Whether the current rules should be suspended or modified in some way in response to the problem outlined above. I stress that the concern is protection of ratepayers; any proposed deviation from current rules for setting avoided energy cost payments should specify how, how long, and under what circumstances the Commission should deviate from those rules. I note that reconsideration of the methodology for avoided energy cost determination is a Phase 3 issue in the BRPU [Biennial Resource Plan Update, I.89-07-004]. (Ruling, pg. 3)

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4 Assigned Commissioner's Ruling in I.89-07-004, October 24, 1990.

Commissioner Hulett signalled his wish for Commission action on December 6 if action was warranted.

COMMENTS ON PROTESTS

Pursuant to the Assigned Commissioner's Ruling, comments on the protests were filed November 5, 1990 by PG&E, SDG&E, SCE, CSC, CCC, AES Placerita, IEP, the Commission's Division of Ratepayer Advocates (DRA), and Toward Utility Rate Normalization (TURN).

PG&E recommends that the Commission make no fundamental changes to the posting methodology, particularly not in response to an emergency PG&E believes does not exist. According to PG&E, gas curtailments would have been forecast with or without the Iraqi invasion, and since the oil price used by PG&E reflects purchases after the invasion PG&E's posting reasonably forecasts PG&E's avoided cost. PG&E believes concerns over the possible effect of the postings on QFs to be beside the point, since the Commission's QF pricing is based on the utility's, not the QFs', avoided cost. PG&E recommends that the Commission focus on refining the method for forecasting time on the margin by oil and gas.

Edison argues that its posting complies with the Commission's directives, and explains that when gas curtailments are expected during a period, Edison forecasts oil on the margin during the period, since oil is Edison's least economic fuel. Edison notes that the current protests address a long-standing problem with the avoided cost methodology:

> The sudden increase in oil prices after the Iraqi invasion of Kuwait has highlighted an ongoing problem with the current quarterly posting

> procedure. Due to seasonal variations in fuel prices, coupled with capacity constraints on SoCal's pipeline system, deviations between posted prices and current avoided energy costs sometimes occur. (pg. 10)

Should the Commission grant the protestants relief, Edison recommends that gas be used as the marginal fuel for the next three quarters, except in the limited circumstance of economic oil burns on the margin.

SDG&E notes that the protests appear not to focus on SDG&E's compliance with the avoided cost methodology. SDG&E asserts that no-one questions its compliance. SDG&E states its willingness to re-examine the avoided cost methodology, but not piecemeal and only after a formal application.

AES Placerita argues that current market realities make very unlikely the prospect of Edison's actually burning its oil in inventory, since replacing the inventory would be at much higher prices. AES believes that the Commission intended the avoided cost methodology to be based on a utility's best judgment in operating its system. AES argues that actually burning oil under current conditions would be poor judgment. AES also questions the application of the oil-into-inventory method for pricing marginal oil burns, since AES is not convinced that Edison made any oil purchases during the prior quarter.

Whether or not Edison's posting complies with the methodology, AES argues that current circumstances justify a change to the postings. AES expects QFs to curtail their operations in response to the price signals contained in the postings, a result AES considers contrary to the goal of least-cost dispatch, since Edison would be forced to replace the QF power lost with

expensive oil-fired generation. AES believes that Edison might be forced to burn even more oil than forecast in the posting, causing air quality to deteriorate in Edison's service territory.

AES notes that customers other than Edison might receive any gas freed up by QF curtailments, and that even if the gas flows to Edison its price will likely be higher than the gas price included in the avoided cost posting, making costs overall higher to ratepayers for the quarter. AES believes that QFs and ratepayers share a common interest in limiting volatility of QF payments.

CCC believes all the utilities' postings to be in error, because they are based on QFs' being in the resource mix and so do not reflect what would occur "but for" the QFs. CCC is convinced that a QFs-out approach would leave natural gas on the margin rather than oil. CCC believes that an acceptable approximation of this approach is to use the whole fossil fuel mix, rather than estimates of marginal use, to determine the marginal fuel. CCC has examined the SoCal Gas operating plan, and believes that Edison's estimates of coming curtailments are too high. CCC agrees with AES that ratepayers face significant risks of price volatility under current oil market conditions. CCC recommends that the methodology for determining the marginal fuel be tightened by the Commission to ensure uniform application among utilities.

CCC shares AES' concern that QFs will inappropriately curtail their operations in response to the price signal presented by the posting, to the detriment of ratepayers.

CCC recommends that the Commission order Edison to revise its filing assuming gas to be on the margin. For the future, CCC recommends monthly, rather than quarterly, postings based on the

total fossil fuel mix, rather than the marginal fuel, and using a current market oil price, rather than a historical average.

IEP believes that Edison has misapplied the avoided cost methodology in light of current conditions, and should instead base its posting on total fossil fuel mix rather than an estimate of the marginal fuel.

CSC believes that Edison has inaccurately assessed gas availability during the quarter, which CSC argues will obviate the need for much oil burning. CSC bases this position on updated storage volume estimates from SoCal Gas that CSC claims were available to Edison prior to November 1. CSC favors PG&E's use of the total fossil fuel mix rather than Edison's estimates of the marginal fuel. Because of current market realities, CSC argues that the current methodology fails to meet the Commission's goal of reflecting reasonably expected avoided costs. In particular, CSC notes that the oil-into-inventory method of valuing marginal oil burns does not mesh with market prices, a problem if market prices become volatile.

CSC recommends that postings be made monthly, and that current market prices be used to value forecast oil burns.

DRA submits that the proper forum for examining the avoided cost methodology is I.89-07-004, the Biennial Resource Plan Update proceeding. DRA believes that the utilities have properly implemented the avoided cost methodology, and that the Iraqi invasion of Kuwait is irrelevant to the protests because it would have no impact on the prices the utilities have actually posted. According to DRA, the methodology isn't perfect, but its continuous application over the years since its adoption has been a reasonable sharing of fuel market price volatility between ratepayers and QFs. DRA writes:

> The QF industry was established on the premise that it will help California diversify its energy resources, and to help insulate ratepayers from future oil crises. It is ironic and shocking that the same QF industry has approached the Commission asking for more money at the first reoccurrence of an oil crisis. One basis for establishing the QF industry was to provide a shield for the ratepayers when economic conditions change. (pg. 5)

DRA has examined the QF proposals, and believes them to be detrimental to the ratepayers based on DRA's forecast of natural gas availability for the coming winter. DRA urges the Commission not to grant the requested relief, and to examine the avoided cost methodology only in Phase III of I.89-07-004.

TURN believes that the methodology should not be changed without a clear showing of ratepayer benefit, and is concerned that factual uncertainties make ratepayer effects of the postings impossible to estimate. For instance, TURN is uncertain how QFs would actually respond to the postings, and in turn how Edison's system dispatchers would react to any QF curtailments. TURN believes that accurate price signals to QFs are in the best long-term interest of the ratepayers.

THE WORKSHOP

CACD conducted the workshop November 15 and 16, 1990 in the Commission's offices in San Francisco. The workshop notice is Attachment A to this report; a list of participants is Attachment B.

DISCUSSION AND CACD RECOMMENDATIONS

At the workshop, it became clear that little or no controversy surrounds the postings of SDG&E and PG&E. The discussion of

Edison's posting revolved around a series of questions, discussed below.

Does an emergency exist? The protestants allege that because of the extreme difference between the posted avoided cost and current operating costs an emergency exists. Workshop participants agreed that the Iraqi invasion of Kuwait has exposed potential problems with the Commission's method for determining avoided cost. In this case, oil price volatility and seasonal variation have created a marked difference between utilities' avoided cost postings and current prices.

QFs assume risk upon entering the electric supply market. The Commission does not guarantee QFs a steady rate of return but rather allows them to alter their operating behavior based on the price signals they receive from the utilities. DRA notes that this allows QFs to reap the benefits of a favorable posting and also to feel the consequences of an unfavorable posting. Thus far, according to statements at the workshop, some QFs have reacted to the current posting by shifting maintenance to the November-January quarter. Edison stated that they have received no notification of curtailment plans by the QFs. The QFs (AES Placerita in particular) claim that they will curtail operations based on the current posting. TURN noted that it is uncertain how QFs will actually respond to the postings and how utility dispatchers will in turn react.

At the workshop the protestants failed to make a convincing case that an emergency exists.

Did the utilities comply with the avoided cost methodology? Both D.82-12-120 and D.89-09-099 allow the utilities significant discretion over the determination of the marginal fuel, relying ultimately on the parties to police a reasonable forecast

standard. These decisions do establish a set mechanism for valuing the marginal fuel once it is chosen.

Some QFs argued in initial comments that Edison used the incorrect oil price in arriving at its posted price. Edison clearly used the most recent historical quarter for oil as D.82-12-120 instructed. CACD therefore recommends that the Commission find that Edison used the proper prices in its calculation.

Workshop participants agreed that Edison applied the methodology differently than PG&E in determining its marginal fuel. This fact alone does not imply that Edison has not complied with the methodology. As the utilities and DRA noted, the decisions which provide the framework for determination of avoided cost leave the utilities much latitude in arriving at an avoided cost posting. Several of the QFs, both in their comments prior to the workshop and at the workshop itself, stated that although the utilities may have complied with the letter of the decisions they (Edison in particular) violated the spirit and the intent of the decisions.

We cannot, based on information available to us, make a determination of whether Edison followed the spirit of the decision. Based on statements made at the workshop by Edison and SoCal it appears that Edison did take into account the most recent information available from SoCal regarding curtailment at the time of the posting in its determination of the incremental fuel. Edison expected curtailments throughout the quarter in all but the first two weeks based on Socal's Operating Plan. Using the "time-on-the-margin" approach to forecast its marginal fuel, Edison determined that oil would on the margin for all but the first two weeks of November.

In previous decisions the Commission did not specifically endorse or reject the "volumetric" approach (used by PG&E in this posting and recommended by CSB in its protest to SCE and SDG&E's November 1988 postings, see D.89-09-099, p.8) or the "time-on-the-margin" approach. At the workshop Edison stated that it had applied the methodology in the same manner for this posting as in past postings. CACD recommends that the Commission find that Edison complied with the methodology set forth in previous decisions.

<u>Do the specific applications of the methodology used in the November 1 postings meet the Commission's goals</u>? In several decisions from D.91109 (2nd CPUC 3, 1) through D.89-09-099 the Commission established and refined its QF pricing program and goals. Several workshop participants (notably AES and CCC) argued that the fundamental goal of the Commission's methodology is to reflect as closely as possible over time the utilities' actual avoided costs[5]. Without disagreeing with this goal, both Edison and DRA emphasized in their discussions the long-term nature of the methodology, arguing that stability of method is also an important goal and wondering whether the current protests flow from the utilities' application of the methodology or the disagreeable effect the results have had on QFs in this particular quarter.

Clearly, the Commission's primary goal in establishing the avoided energy cost payments was to approximate reasonably the utilities' actual avoided costs. At no time during the many years the methodology has been used have the posted avoided costs been exactly equal to the utilities' true avoided costs as they

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5 For instance, in 1982 the Commission noted that "the intent of the energy prices is to capture as accurately and timely as possible the current marginal energy cost incurred by the utility." (2nd CPUC 8, 44)

occurred, and no-one expected them to be. Rather, the many parties interested in QF pricing have implicitly agreed that the error inherent in forecasting avoided costs either evens out over time (that is, ratepayers lose in one quarter, and QFs lose in another quarter) or is small enough to be acceptable (for instance, steadily falling oil and gas prices during the eighties might have disadvantaged QFs, but the Commission's gas price parity guarantee has held QFs tolerably unharmed).

Although no emergency has been proved here, there is little doubt that the current postings, particularly by Edison, could substantially be improved upon as estimators of actual avoided cost during the quarter. The Commission must weigh the benefits of a predictable, long-term application of the methodology against the chance that that predictable application, as properly and appropriately used by a utility, might differ markedly from actual expected conditions during the quarter. DRA points out the possibility for gaming of the methodology if the Commission shows itself willing to modify its application often and under less-than-urgent circumstances.

Is there a better way of using the methodology to estimate avoided costs than that contained in Edison's avoided energy cost posting? TURN has phrased the issue facing the Commission as a choice between PG&E's and Edison's method of forecasting the marginal fuel source. A great deal of discussion in the workshop was devoted to exploring the two methods, without agreement even on some of the mechanics of each utility's method. Nevertheless, some broad aspects of the two methods are clear. When PG&E forecasts a gas curtailment, and therefore a period with oil on the margin, it forecasts the fraction of its total fossil fuel mix represented by oil (that is, PG&E looks not just at the margin, but throughout the entire region of fossil burn) and uses that fraction as its estimate of marginal oil burn. For

instance, if PG&E were to forecast a natural gas curtailment of 10% its marginal fuel forecast would place oil on the margin 10% of the time.

Edison's method, (called "time-on-the-margin") though its details were somewhat controversial during the workshop, appears to approach the problem by identifying a time period during which gas curtailments are expected (the most recent updated postings estimate two weeks without curtailments) and assuming that oil is on the margin throughout that period. That is, Edison forecasts that some oil will be burned during the period, and since oil is the least economic source (valued at replacement cost by Edison's dispatchers) Edison places oil on the margin throughout the period. It is conceivable that even a tiny forecasted oil burn, so long as gas curtailments were expected throughout the period, would yield avoided cost postings assuming 100% oil burns on the margin.

Edison's method is consistent with the Commission's methodology and Edison's continued use of the method has been in no way improper. To the contrary, as Edison noted at the workshop, had Edison suddenly changed its method in this quarter's postings criticism and charges of gaming would have been quick and strident. The workings of Edison's method, though, make it particularly volatile when gas curtailments are expected -- oil can swing from never on the margin to always on the margin based on small changes in gas supply. Coupled with large differences between oil prices as estimated by oil-into-inventory and gas prices as existing at the beginning of the quarter, this volatility in selection of the marginal fuel will lead to equally large swings in the calculated avoided energy costs.

PG&E's method (called "volumetric" at the workshop, meaning that it's based on the forecasted volumes of oil and gas to be burned

in the quarter) does not share that volatility. PG&E's method implicitly argues that a forecast of actual marginal fuel is difficult to make -- gas curtailments can change from day to day, and a utility's system may in fact be swinging on another source entirely -- and that one reasonable forecast of marginal fuel mix is the total fuel mix. SDG&E may use a similar method, though there was disagreement on that point at the workshop.

Do ratepayer impacts justify the Commission's ordering a change to the November 1 postings? Each of the remedies proposed by the QFs, as DRA pointed out, would raise costs to ratepayers immediately and significantly (though there was some discussion in workshop comments that if Edison were forced to burn oil as a result of QFs' reducing their output ratepayers might be better off paying QFs more and keeping them in production). But TURN and DRA emphasized at the workshop their commitment to the long-term signals sent by the methodology, and several QFs noted that volatility in avoided cost postings exposes ratepayers to equal and countervailing risks with the QFs. To the extent that Edison's long-standing method of forecasting the marginal fuel has, under current circumstances, dramatically affected the avoided cost postings in a way that strikes many as counterintuitive (falling avoided costs, as AES points out, make little sense during this of all quarters), the ratepayers are placed at risk for future applications of the methodology that go in the QFs' favor. This risk should only be accepted if the Commission is convinced that Edison's forecasting method is in fact a consistently better approximator of the actual avoided fuel mix than PG&E's volumetric method. The workshop produced, to say the least, no agreement on that point.

Accordingly, CACD recommends that the Commission find that no utility, and particularly not Edison, violated the Commission's avoided energy cost methodology, but that changed circumstances

warrant the use of PG&E's volumetric method by Edison beginning with the November 1, 1990 postings and continuing prospectively thereafter. This should not be construed as a criticism of Edison, nor should it be used as an excuse to re-examine prior periods' postings.