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Decision 82-04-071 APR 12 1982

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Rulemaking on the Commission's own motion to establish standards governing the prices, terms and conditions of electric utility purchases of electric power from cogeneration and small power production facilities.) OIR 2

ORDER MODIFYING DECISION (D.) 82-01-103
AND DENYING REHEARING AND STAY THEREOF

Applications for rehearing of D.82-01-103 have been filed by Pacific Gas and Electric Co. (PG&E), San Diego Gas & Electric Co. (SDG&E) and Southern California Edison Co. (Edison). A petition for modification has been filed by Solar Turbines Inc. Responses to the applications for rehearing have been filed by the California Energy Commission, Great Western Malting Co., Windfarms Ltd., Kerr-McGee Chemical Co., Natomas Co. and Thermal Power Co., and Union Oil Co.

We have carefully considered each and every allegation of error and request for modification in those applications and petitions as well as the responses thereto and are of the opinion that good cause for granting rehearing has not been shown. However our review of the issues raised indicates that some clarification of our intentions is needed. Furthermore D. 82-01-103 should be modified in several respects to conform to these intentions and to correct certain clerical errors which have been brought to our attention.

As an example of a need for clarification, PG&E, SDG&E and Edison each questions the use of a gas turbine proxy as the basis for calculating short-term capacity cost which is used for the as-available capacity payment and the firm capacity payment. In that regard, we note that full avoided cost (to be referred to here simply as avoided cost) represents the cost the utility avoids by purchasing QF power and therefore displacing its own generation. By basing the price paid by a utility to a QF on

avoided cost, the price reflects the value of that power to the utility system. This value in the short-term includes displaced operating costs (including fuel, O&M, some T&D) and the enhancement of a system's reserve margin through increased resources. In the long-term the value would reflect the avoided capital and operating costs of marginal additions to the utility's generating capacity.

The avoided costs used in D.82-01-103 reflect changes in the value of power to a utility with time of day, season, and term of contract. Except for QFs under 100 kW without a time differentiated meter (whose as-available capacity payments are reduced substantially to reflect their reduced value off-peak) payments for energy and for as-available capacity vary with time of day and season. There is no windfall to QFs through payment of the highest incremental cost of utility power on peak for all QF power. Furthermore, the incremental fuel that is the basis of the energy payment can change if, for example, utilities burn gas rather than oil (or ultimately, we hope, some other fuel) during the 3-month period evaluated for the quarterly updating of the avoided energy cost.

The choice of the gas turbine grew out of our proceedings on a generic marginal cost methodology (see Decision No. 92749) and was reinforced in Decision No. 60153, dated December 30, 1981. The gas turbine is, we fully agree, merely a proxy for shortage costs. As a basis for the as-available capacity payment it represents the avoided cost of short-term supply investment for peaking power. This of course does not suggest that it is the desired incremental capacity choice. However, its use is consistent with an incremental fuel cost that will for some time be based on oil or gas.

In adopting the gas turbine, we recognize that the methodology for calculating as-available capacity may change in the future. Conceptually, a methodology that varies capacity payments based upon the probability of loss of load, perhaps using reserve margins, would be desirable. We will entertain revisions

in the as-available capacity methodology in the utilities' general rate cases.

The gas turbine is somewhat less attractive as a basis for the firm levelized capacity payment. Ideally the firm contract for energy plus capacity should be based on the utility's resource plan. We intend to have an offer developed on this basis as soon as possible. At present the gas turbine is the best surrogate we have for capacity and it is consistent with an energy payment based on oil or gas.

With respect to the fuel used to calculate short-run operating costs, D.82-01-103 acknowledges that for most utilities these costs are currently based on oil. However it does not tie the avoided cost to this fuel for all time. As utilities reduce their dependency on oil and other fuels fix their marginal cost, this fact should be taken into account in the calculations.

Although several parties have challenged our jurisdiction to issue and enforce D.82-01-103, we are not persuaded that our authority is lacking in any respect. Both Edison and SDG&E suggest that the Federal Energy Regulatory Commission's (FERC's) Regulations relating to full avoided cost rates and blanket authority for QFs to interconnect are no longer in effect by reason of a decision of the United States Court of Appeals in American Electric Power Service Corp. et al. v. FERC, No. 80-1789, issued January 22, 1982. However, this decision has been stayed pending appeal and FERC has filed a petition for rehearing which is now being considered by the court. Therefore the Regulations in question are still in effect and we are both empowered and required to implement them.

The parties who have raised jurisdictional questions should recognize that, irrespective of the status of litigation on the FERC rules, Sections 2801 through 2804 of the Public Utilities Code establish a comprehensive scheme "to encourage private energy producers to competitively develop independent sources of natural gas and electric energy" (Sec. 2801). D.82-01-103 clearly stated

that it was based on State as well as federal grounds but that the structure and terminology of the FERC rules were used to avoid confusion. Where both State and federal legislation seek to obtain the same ends with compatible directives to this Commission, we can think of no better way to obstruct these objectives than to establish two entirely separate regulatory schemes.

PG&E, Edison, SDG&E, and various parties responding to the petitions for rehearing have taken exception with the portion of Decision No. 82-01-103 establishing periods during which purchases from QFs are not required. Their arguments focus on the potential situation where the spill of utility-owned hydro and/or curtailment of utility-owned geothermal plants would be required to permit mandated purchases from QFs. SCE further argues against (1) the curtailment of economy energy purchases in favor of QF purchases, (2) the limitation that only QFs over 1 MW be curtailed except in cases of emergency and scheduled maintenance, (3) the requirements for notice preceding curtailment, and (4) the requirement that utilities attempt to sell excess power rather than curtail. SDG&E argues that firm capacity purchase contracts should be treated as utility generating sources in establishing curtailment priorities.

The arguments regarding the undesirability of hydro spill have merit. While we do not consider refusal to purchase requirements as being appropriate for spill conditions, we recognize the need for refinement of the standard price offer to avoid waste during these circumstances.

As established in Decision No. 82-01-103, a utility can refuse to purchase electricity from QFs during any period during which, due to operational circumstances, purchases from QFs will result in system costs greater than those which the utility would incur if it did not make such purchases, but instead generated an equivalent amount of energy itself. We use the term "negative" avoided costs to define such periods, as does FERC in its Analysis (Federal Register, p. 12227). We cite such a condition as being when a baseload or large oil-fired intermediate load plant is shut

down at night due to an excess of QF electricity but then cannot be restarted and brought up to its rated output for the next day's peak load, thus necessitating instead the startup of a plant with very high generating costs (e.g., a gas turbine peaker) or an expensive emergency purchase of capacity.

While the FERC rule regarding refusal of purchase is somewhat vague, the FERC comments are clear in their intent to allow refusal of purchases from QFs only during times of negative cost and only if the utility is unable to sell excess system energy. While we conclude that refusal to purchase requirements should not apply to hydro spill conditions, a dilemma remains. The avoided cost methodology adopted is based on projected average avoided costs over a given time period. At certain hours during a period, and during years when hydro availability is high or low, actual avoided costs may deviate substantially from the average avoided cost. In the case where hydro is spilled, significant waste may occur if QFs (some of which burn nonrenewable fuels) are paid average avoided cost while water is wasted.

The ultimate solution to this problem may be to refine the avoided cost methodology to signal prices to QFs more frequently, perhaps through improved metering. We encourage utilities to develop and submit proposals for future review. In the meantime, we conclude that the potential waste of resources created by hydro spills requires an additional mechanism. While we will not permit a utility to refuse to purchase from QFs, we will permit it to offer "hydro savings" prices to QFs during periods of potential hydro spill conditions on its own system, upon notice to the QFs. We define a "hydro spill condition" as occurring when all the following conditions are met:

-all utility-owned non-hydro plants are shut down or are operated at the minimum level practical,

-all non-QF electricity purchases are curtailed the maximum amount possible without breaching contract terms,

-the utility is making all feasible economy sales, and

-if it accepts full QF power, the utility must spill its own hydro resources.

The methodology for establishing hydro savings prices shall be established by the utility and shall be filed for Commission review as amendments to its initial offers submitted in response to D.82-01-103. The actual hydro savings price will be calculated when a hydro spill condition occurs, and should be based on avoided cost at the time it is paid. It will vary depending on system conditions. It will generally be at or below the economy energy sales price. If the hydro which would otherwise be spilled can generate enough energy to displace all QFs, even after all possible economy energy sales are made, then the price will be zero or nearly zero.

We anticipate that QFs will respond rationally to changes in the purchase price offered to them. As the price is lowered, many QFs with operating cots higher than the price offered will choose to cease sales to the utility. It is our intent that the hydro savings price be established at a level resulting in the maximum amount of QF power which can be accepted without hydro spill occurring. If the extreme price of zero is reached, then only those QFs with shutdown costs larger than operating costs would continue to operate. In this situation, the utility should spill hydro as needed, with no economic loss to the system.

Because we are permitting payment of hydro savings prices, utilities must demonstrate that filed prices for the remaining periods are not lowered to reflect the lower avoided costs that will occur during hydro spill conditions.

The occurrence of hydro spill conditions is not known far enough in advance to be part of the quarterly price offers. Therefore, other notice must be provided. We will expect utilities to develop a notice policy that gives QFs as much warning of hydro spill conditions as possible, including the price to be paid, and certainly enough warning to allow QFs to respond to the price signals. The utilities should also give notice of general periods when hydro spill might be anticipated, as well as notifying QFs specifically when hydro savings prices are being imposed. This notice policy should be part of the standard offer. Because hydro savings pricing creates uncertainty and administrative burdens for QFs, utilities must consider all feasible alternatives before paying this price.

Utilities must seek out all possible economy sales of surplus power before reaching hydro spill conditions, and before refusing to purchase from QFs under negative avoided cost conditions. Given the heavy reliance of California's major utilities on high cost oil and gas fuels, we believe that only in rare circumstances will a utility be unable to find a purchaser of economy energy. A utility will have a heavy burden of proof before this Commission to justify hydro savings pricing or refusals to purchase, including a compelling showing that no other utility could have purchased available surplus system power at economy rates lower than its avoided costs. In the modifications to D.82-01-103 hereinafter ordered, we clarify that this is an affirmative responsibility of the utility. We also extend utility filing requirements to cover periods when hydro savings pricing is in effect and strengthen the filing requirements to describe system conditions more fully during negative avoided cost or hydro spill periods. We recommend that utilities subject to this order develop contingency plans for periods when negative avoided

On the question of curtailment of utility-owned geothermal, we understand that output from geothermal steam wells can be reduced to some extent without affecting the wells significantly. Beyond some minimum level of operation, however, the steam producers may choose to vent steam rather than risk damage to the wells. Such venting would result in the loss of a valuable resource. In their contracts with PG&E, the geothermal steam producers agreed to clauses allowing curtailment during hydro spill conditions, with no provision for minimum operation to prevent steam venting. While steam venting would be unfortunate, we feel that this is a matter not properly addressed in this proceeding.

One other clarification is in order. As to contracts based on long-run marginal costs, D.82-01-103 does not require

that energy costs must be fixed rather than be based on escalation clauses. We will consider and resolve this question after the evidentiary hearings which will follow.

Although Edison's and SDG&E's applications for rehearing include requests for a stay of D.82-01-103 pending the resolution of federal litigation and, if necessary, new FERC Regulations, both Edison and SDG&E subsequently filed separate petitions for extensions of time in which to file their initial offers and data. Whether or not these petitions were intended to supersede the requests for stay, we find no good cause has been shown for staying D.82-01-103, and by this decision we deny that stay.

SDG&E expresses several concerns over Ordering Paragraph 22, which orders the utility to require the QF to pay for interconnection costs but grants the OF two payment options: Either to advance the interconnection costs at the outset to the utility or to pay through a series of monthly payments. The second method essentially is in accordance with the utility's existing Rule No. 2 clause covering payment for special facilities. SDG&E indicates it may thus be obligated to advance as much as $10 million per interconnection for a very large OF and not be able to check the QF's credit worthiness, etc. It equates this arrangement to an up-front capacity payment which is a concept we rejected in D.82-01-103 because it puts the utilities and their ratepayers at too great a risk.

Upon reconsideration of this issue we conclude that the interconnection facilities to be advanced under the second of the above two options should include only "removable facilities," e.g., the utility-to-OF transformer (or bank), the disconnect switch, circuit breaker, protective relays and related wiring, but shall not include facilities which cannot be removed and reused by the utility.

Our reason for thus distinguishing between removable and non-removable equipment is that the risks to the utilities and their ratepayers should be significantly lessened if the

facilities can be removed in the event the QF fails. Furthermore, under tariff Rule 2, utilities already advance to electric customers the costs for such removable facilities. It would be inequitable not to apply a similar policy for QFs. Moreover, unless similar treatment is provided, an electric customer who may be considering cogeneration would be faced with less favorable interconnection options than otherwise.

Also, it is not our intention that any line extension costs be included as "interconnection costs." Extension line costs could be substantial, depending on the location of a new QF. Furthermore, costs for line extensions are already covered in the utilities' Rule 15 series which provide for advance payment by the QF.

The following order will modify Ordering Paragraph 22 to conform to our conclusions.

Finally, by D.82-03-027, issued and effective on March 2, 1982, we ordered that the initial offers required by D.82-01-103 would become effective after we had responded to all petitions for rehearing and modification. All the proposed initial offers have been reviewed by our staff. As a result of deficiencies disclosed by this review and the fact that we are herein modifying D.82-01-103 in several respects, we are of the opinion that all the utilities should amend their initial offers, including those amendments necessary to conform to these modifications.

In addition, Edison's initial offers are not based on avoided costs. Inasmuch as we do not concur with Edison's position that standard offers based on avoided costs are not required nor appropriate, Edison should be required to amend its initial offers to base them on avoided costs.

SDG&E's initial offers include capacity payments which do not appear to be based on the use of a gas turbine proxy. Inasmuch as we do not concur with its position that use of a gas turbine proxy is unlawful or inappropriate, SDG&E should also be required to amend its initial offers to base capacity payments on the use of a gas turbine proxy. If, upon review, it appears that

either Edison or SDG&E has failed to amend its price offering as specified, the staff is directed to recommend to us appropriate action to remedy the noncompliance.

No other questions need be discussed. Therefore, good cause appearing,

IT IS ORDERED that,

1. D.82-01-103 is modified as follows:

   (a) The following paragraph is added to the text on page 119, mimeo.:

   "Although the recommendations of the staff and Solar Turbine's comments thereto do not appear unreasonable, we believe that rules and rates for standby service to selfgenerators should not be set in a vacuum. We are concerned in this proceeding with rules and rates, including standby rates for OFs. Those for selfgenerators, because they should be considered in relation to rates and rules governing other classes of customers, should be addressed in general rate proceedings. Upon a proper showing in any such proceedings, we will do so."

   (b) Ordering Paragraph 13 on page 160a, mimeo., is modified to read in full as follows:

   "All payments made by utilities to OFs under the standard offer and approved nonstandard contracts shall be subject to recovery in ECAC or other appropriate proceedings. For purposes of this paragraph, a nonsuspended initial offer shall be considered a standard offer."

   (c) In the fourth line of the first full paragraph on page 60, mimeo., the word "The" is substituted for the words "It is."

   (d) In the third line of the first full paragraph on page 86, mimeo., and in the first line of the second

paragraph on page 145, mimeo., the word "levelized" is deleted.

(e) Finding of Fact 74 on page 152, mimeo., is modified to read in full as follows:

"74. The capacity value of a small QF which does not deliver by time-of-use is less valuable to the utility than that of a QF which does."

(f) Ordering Paragraph 6.a is modified to read in full as follows:

"6.a Differentiate payments to QFs by time of use, including, if necessary, a "hydro savings" price during "hydro spill conditions", as defined on pages 5 and 5a of Order Modifying Decision 82-01-103, dated April 12, 1982."

(g) Paragraph 14 is modified to read in full as follows:

"Utility purchases are not required from QFs during periods when the utility's avoided cost is negative as defined in D.82-01-103. Before refusing to purchase from a QF, the utility shall attempt economy sales of surplus energy. In such cases the QF shall be paid based on the economy energy price and no wheeling charge shall be imposed by the utility. A utility may refuse to purchase from a QF only if the utility fails to consummate economy energy sales.

Only under hydro spill conditions at utility-owned facilities, may the utility offer a hydro savings price."

(h) Paragraph 17 is modified to read in full as follows:

"Each utility shall file quarterly a report regarding periods of negative avoided cost or hydro spill conditions for the previous quarters. The report shall include the following:

(1) The hours and duration of negative avoided cost or hydro spill conditions and of non-purchase periods.

(2) Estimates of the amount of energy not purchased.

(3) Estimates of the amount of energy purchased at hydro savings prices, the price paid, and the number of QFs that decided to sell at the hydro savings price.

(4) The utilities to which economy energy was offered for sale before refusals to purchase or hydro savings prices were invoked.

(5) The prices at which utilities were willing to buy electricity.

(6) The QFs whose power the utility refused to purchase.

(7) The economy or hydro savings prices offered to QFs which the QFs refused, and

(8) The operating conditions under which the utility refused to purchase or invoked hydro savings pricing, including the maximum, minimum and average operating level of each utility plant and corresponding amounts of all QF and non-QF purchases; and, if transmission limitations are a factor, relevant information regarding transmission loading.

(i) Finding of Fact 65 is deleted, and Ordering Paragraph 15 is modified to read in full as follows:

"Utilities shall, as soon as possible, notify QFs of the possibility that purchases may be refused or when hydro savings prices are to be established. The utilities shall provide general notice whenever possible of periods when a refusal to purchase or hydro savings pricing is likely to occur. The notice policy shall be included in each utility's standard offers."

(j) Ordering Paragraph 22 is modified to read in full as follows:

"Utilities shall require QFs to pay for interconnection costs. The QF shall advance to the utility the estimated cost of the interconnection facilities and also pay a monthly maintenance and depreciation

charge as authorized by the Commission. For 'removable facilities' the QF may elect not to advance the costs and instead pay a monthly charge as authorized by the Commission. The OF shall pay a facility termination charge defined as the estimated installed cost, plus the estimated removal cost, less the estimated value for interconnection facilities upon removal. The utility shall deduct from the termination charge the advance previously paid, if any. If the advance paid is greater than the termination charge, the utility shall refund the difference without interest to the QF."

(k) In the first sentence of Ordering Paragraph 7, the word "1982" is deleted and replaced by the words "current year."

2. Stay of D.82-01-103 is denied.

3. Rehearing of D.82-01-103 as modified herein is denied.

4. Each utility shall, within 15 days after the effective date of this order, file appropriate amendments to its proposed initial offers and pending applications, including those reflecting the modifications to D.82-01-103 made herein.

5. In addition to the amendments required by Ordering Paragraph 4, within 15 days after the effective date of this order, Edison shall also amend its proposed initial offers to base them on its avoided costs and SDG&E shall amend its initial offers to include capacity payments based on the use of a gas turbine proxy.

6. No initial offer shall go into effect until amended as required by Ordering Paragraphs 4 and 5. The amended initial offers shall go into effect 30 days after the effective date of this order, unless further suspended by this Commission.

This order is effective today.

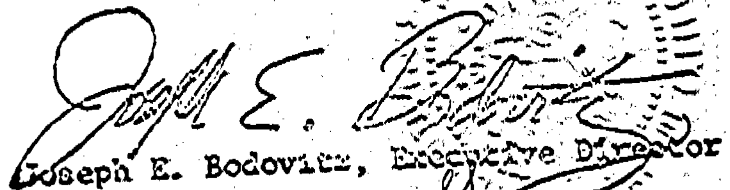
Dated April 12, 1982 at San Francisco, California.

JOHN E. BRYSON
President
RICHARD D. GRAVELLE
LEONARD M. GRIMES, JR.
VICTOR CALVO
Commissioners

I abstain.

PRISCILLA C. GREW, Commissioner

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



Joseph E. Bodovitz, Executive Director