

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Promote
Consistency in Methodology and Input
Assumptions in Commission Applications of
Short-run and Long-run Avoided Costs,
Including Pricing for Qualifying Facilities.

Rulemaking 04-04-025
(Filed April 22, 2004)

**POST-WORKSHOP OPENING COMMENTS OF
THE COGENERATION ASSOCIATION OF CALIFORNIA AND
THE ENERGY PRODUCERS AND USERS COALITION**

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Pursuant to the Electronic Ruling issued on July 14, 2004, the Cogeneration Association of California¹ and the Energy Producers and Users Coalition,² (CAC/EPUC) submit these post-workshop opening comments. These comments raise again the critical threshold issue concerning Avoided Cost (AC) payments to Qualifying Facilities (QFs): the need for access to utility cost data. As requested by the Electronic Ruling, these comments also present for inclusion in the final E3 Report a chapter with refinements to the E3 avoided cost methodology for its applicability to QFs.

¹ CAC represents the power generation, power marketing and cogeneration operation interests of the following entities: Coalinga Cogeneration Company, Mid-Set Cogeneration Company, Kern River Cogeneration Company, Sycamore Cogeneration Company, Sargent Canyon Cogeneration Company, Salinas River Cogeneration Company, Midway Sunset Cogeneration Company and Watson Cogeneration Company.

² EPUC is an ad hoc group representing the electric end use and customer generation interests of the following companies: Aera Energy LLC, BP America Inc. (including Atlantic Richfield Company), Chevron U.S.A. Inc., and ExxonMobil Power and Gas Services Inc.

I. INTRODUCTION AND SUMMARY

The first issue is simple. All parties share a continued need for access to utility cost data to participate meaningfully in the determination of an appropriate methodology for calculating utilities' avoided cost. ***Provision of this information to QFs is required by federal law.*** This information is particularly necessary for the calculation of AC for QF pricing, to be determined in this proceeding. Notably, for QF pricing purposes, the utility cost data is required to determine (1) the utility short run avoided costs (SRAC), including both short run energy costs and short run capacity costs, and (2) the utility long run avoided costs (LRAC).

If all parties, including the utilities, agree that the current statutory formula set by Public Utilities Code Section 390(b) provides an approximation of the utilities' short run energy costs, then use of this formula may satisfy the federal requirement to provide utility cost data to QFs for calculation of the utilities' short run avoided energy costs. Southern California Edison Company (Edison), however, has challenged and continues to challenge the §390(b) formula as representative of its short run avoided energy costs. Clearly, parties should have access to SCE specific cost information to evaluate such a claim. Additionally, the §390(b) proxy for the avoided short run energy costs does not alleviate the need for utility specific information to calculate the avoided utility short run capacity costs. Further, QFs also need and are required by federal law to be provided access to the utility procurement cost information to ascertain the utilities' LRAC. The need for access of all parties, including QFs, to utility

procurement cost data, therefore, remains, and must be provided by this Commission as promised. ***“With this information, potential new QF power providers will be able to accurately assess the value and benefit to them of providing new or additional power to the IOUs. This approach provides fairness both to the QF community and to the IOUs and their ratepayers.”***³

The Commission should order the utilities to provide the required cost data *now*; such access may be provided with the protection of safeguards via Commission adoption of the model Protective Order previously submitted by CAC and EPUC. Thus all parties would have access to the necessary information to determine the utilities' avoided costs for QF pricing.

The second issue is more complex. How the E3 methodology for calculating avoided costs may be applied to determination of avoided costs for QF pricing. The methodologies proposed in Attachment A maintain consistency, to the extent practicable, between utility avoided costs for QF pricing and the utility avoided costs used for other purposes. Total utility long run avoided costs for QF pricing include generation avoided costs, transmission and distribution avoided costs, emissions avoided costs, and reliability avoided costs. The components for the foundation for determination of short run avoided utility costs for QF pricing include a short run energy component, as provided by § 390(b), and a short run capacity component. The Commission should include the attached chapter on use of the E3 methodology for QF pricing in the final E3 Report.

³ D.04-01-050, in R.01-10-024 at 160-161.

II. ALL PARTIES MUST HAVE ACCESS TO UTILITY COST DATA TO DETERMINE THE METHODOLOGY FOR CALCULATING UTILITY AVOIDED COSTS FOR QF PRICING PURPOSES.

Federal regulations, with the force of law, require the utilities to share with QFs that utility cost data necessary to determine the utilities' avoided costs.⁴ Moreover, this Commission has stated that it is necessary to increase the transparency of its proceedings.⁵ Further, for QF AC pricing in particular, this Commission, recognizing the importance of this information for QFs, has promised that QFs will have access to the necessary utility information.⁶

Parties need the utility cost information to determine for themselves the utilities' avoided costs. This Commission must assure that all parties, including QFs, may meaningfully participate in this proceeding. To fully enable parties' participation, the Commission should order the utilities to make the federally required utility procurement cost data available. The Commission may adopt the previously submitted protective order and thereby, as required by federal law, grant all parties to access utility cost information to determine the methodology for calculation of AC. Requiring the utilities to provide their cost information to QFs in this proceeding to enable those QFs to ascertain the utilities avoided costs complies with federal law.

⁴ See 18 CFR § 292.302; see also *Fidelity Fed. Sav. & Loan Ass'n. v. De La Cuesta*, 458 U.S. 141, 153 (1982)(Federal regulations have the force and effect of law).

⁵ See Decision 04-01-050 in R.01-10-024 at 160.

⁶ See D.04-01-050, in R.01-10-024 at 160-161 (QFs will “**have accurate information on what the avoided cost prices that they will receive are likely to be.**”)(emphasis added).

A. PURPA and Federal Regulations Mandate Disclosure of Utility Cost Data to QFs to Enable QFs to Determine the Utility's Avoided Cost.

The Commission must make it possible for all interested parties to fully participate by providing all parties access to that utility information required to be disclosed by relevant federal regulations. Title 18 Code of Federal Regulations § 292.302 orders electric utilities and state jurisdictions to make available to the public detailed electric utility cost information. Disclosure of the following is required:

- *the electric utility's plan for the addition of capacity by amount and type,*
- *for purchases of firm energy and capacity ...*
- *planned capacity firm purchases, on the basis of dollars per kilowatt, and*
- *the associated energy costs of each unit, expressed in cents per kilowatt hour.*

18 CFR § 292.302. The regulations also state, "*These costs shall be expressed in terms of individual generating units and of individual planned firm purchases.*"⁷

These federal regulations enable the QFs to ascertain the utility's avoided cost by giving QFs access to utility cost data. The regulations also permit the provision of alternate utility information, **so long as the alternate information leads to the utilities' avoided costs.**⁸ Edison asserts that the use of §390(b) as a proxy for short run energy costs is such an appropriate alternative to the

⁷ 18 CFR § 292.302. This federal regulation affects all electric utilities whose total yearly sales are greater than 500 million kilowatt hours. *Id.* These federal regulations clearly apply both to this Commission and to the respondents.

⁸ "[A]ny State regulatory authority may require ... data different than those which are otherwise required by this section **if it determines that avoided costs can be derived from such data.**" 18 C.F.R. 292.302(d) (emphasis added).

required provision of the specified utility cost information.⁹ If all parties agree that §390(b) represents an approximate determination for the short run utility energy costs for QF pricing purposes, then the need for utility cost data to determine short run energy avoided costs may met by the use of that proxy formula. In addition to CAC/EPUC, several parties, including the other utilities, have affirmed the use of §390(b) for determination of short run avoided energy costs.¹⁰

Edison, however, has claimed §390(b) does not, in fact, approximate its avoided costs.¹¹ Edison therefore asserts on one hand that the federal mandate to provide utility cost information to QFs to determine avoided utility costs is met by the use of the statutory formula as a proxy for the determination of short run energy costs. On the other hand, Edison claims that that same proxy formula does not approximate its short run avoided energy costs.¹² These contradictory claims must not be countenanced by this Commission. Edison cannot have it both ways. Either the §390(b) formula, as a proxy for utility short run avoided energy costs satisfies the PURPA requirement and enables the QFs to ascertain the short run avoided energy costs, or the utilities must provide the detailed procurement cost information required by federal law such that the QFs may determine the utilities' short run avoided energy costs. If Edison's claim that the

⁹ See Reply of Southern California Edison Company to Pre-Workshop Comments on Avoided Cost Methodology, submitted June 18, 2004 in this proceeding, at 8-9.

¹⁰ See Pre-Workshop Comments of Pacific Gas & Electric Company, at 10-11, submitted June 4, 2004 in this proceeding; see *also* Comments of San Diego Gas & Electric Company and Southern California Gas Company, at 10, submitted June 4, 2004 in this proceeding; see *also* Pre-Workshop Comments of Independent Energy Producers Association, at 10, submitted June 4, 2004 in this proceeding.

¹¹ See Edison Petition for Writ of Review and Memorandum of Points and Authorities, filed in the Second Appellate Division of the California Court of Appeals on August 11, 2004.

¹² *Id.*

§390(b) formula does not approximate its avoided short run energy costs, then Edison must comply with federal law and provide the specified utility cost data to QFs.

Regardless, the §390(b) formula is only a proxy for the determination of utility avoided short run energy costs. The federal requirement for QFs to have access to utility cost data to ascertain the short run avoided capacity costs remains, as does the need for access to information leading to the determination of LRAC. Moreover, for LRAC, QFs need the specific cost information for long-term purchases and resources to determine whether proposed LRAC methodology, as included here, would approximate actual utility long term avoided costs.

As previously noted, the Commission has stated clearly that QFs will ***“have accurate information on what the avoided cost prices that they will receive are likely to be.”***¹³ Indeed, federal law entitles QFs to the utility cost data, the salient information relevant to calculate the utilities’ avoided cost. Such utility cost data was previously publicly available, as required by federal statute. The federal law has not changed, and such cost data must now again be made available to QFs in this proceeding to enable QFs to determine utility avoided costs, including short run avoided capacity costs and long run avoided costs. Adoption of the protective order and nondisclosure certificate submitted in pre-workshop comments would enable parties and this Commission to ascertain

¹³ D.04-01-050, in R.01-10-024 at 160-161 (emphasis added).

whether proposed avoided cost methodologies, including those attached hereto, approximate utility avoided costs.

III. THE COMMISSION SHOULD INCLUDE THE ATTACHED QF CHAPTER IN THE FINAL E3 REPORT.

The attached chapter proposes methodologies for calculating both the SRAC and LRAC for application to QFs. The recommendations reflect the fact that utility avoided costs should be valued at different times and locations to better track the true avoidable costs; however, the time differentiation should be on a time of delivery basis consistent with the utilities' time of use (TOU) tariffs. This chapter also provides a basis for establishing rates for payments to QFs that is consistent with but not always identical to the avoided cost component discussed elsewhere in this report. The chapter details the four cost elements that comprise the long run utility avoided costs applicable to QF pricing: generation; transmission and distribution; emissions; and reliability. The chapter also provides calculations for both the energy SRAC component and the capacity SRAC component.

IV. CONCLUSION

All parties, QFs in particular, continue to need access to utility procurement cost information, as required by federal law, to ascertain utility avoided costs for QF pricing purposes. The Protective Order and Non-Disclosure Certificate submitted previously with the pre-workshop comments should be adopted by this Commission now. Parties would then be able to execute the Non-Disclosure Certificate and thereby gain access to the necessary information to enable full participation in the determination of utility avoided costs

for QF pricing purposes in this proceeding. Also, the attached chapter refining the avoided cost calculation methodology for application to QF pricing should be included in the final report by E3.

Dated: August 20, 2004

Respectfully submitted,

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ATTACHMENT A

5.0 Qualifying Facility Avoided Cost Framework

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5.1 Foundations of Qualifying Facility Avoided Cost Methodology

5.1.1 Introduction

The methodologies for determining the utilities' avoided cost for pricing for qualifying facilities (QFs) reflect the following: legal obligations, the type of power delivered by the QF (i.e., short-run as-available deliveries versus long-run baseload deliveries); value and timing of the QF deliveries; the needs of the utility to frequently update the fuel and variable O&M prices underlying the energy-related avoided costs, and the ability to administer payments based on the adopted methods. Consequently, the methodologies presented are designed to maintain consistency, to the extent practicable, between utility avoided costs for QF pricing and the utility avoided costs presented earlier in this report.

Utility costs avoided by qualifying facilities are encompassed in two general categories – Short Run Avoided Costs (SRAC) and Long Run Avoided Costs (LRAC). Each of these categories has a capacity component and an energy component. This section of the report addresses the foundation for developing both the SRAC and LRAC that apply to QFs. The recommendations reflect the fact that avoided costs should be valued at different times and locations to better approximate the true avoidable costs; however, in recognition of the need to enhance utility administration of QF power purchase agreement, time differentiation of avoided costs is on a time of delivery basis consistent with the utilities' time of use (TOU) tariffs. Moreover, the determination of avoided fuel price is updated on a monthly basis to better correlate with the actual gas market price variations. Accordingly, this section provides a basis for establishing rates for payments to QFs that is consistent with but not always identical to the avoided cost component discussed elsewhere in this report. The elements comprising the total avoided cost for QFs are drawn from the following components:

1. Generation Avoided Costs
2. T&D Avoided Costs (transmission and distribution)
3. Emissions Avoided Costs Generation avoided costs capture costs to comply with emissions regulations incurred by generators. However, emissions avoided by non-fossil fueled QFs and cogeneration are not reflected in the generation avoided cost and thus, constitute additional avoided costs that must also be included.
4. Reliability Avoided Costs This avoided cost reflects the reliability benefit of a demand reduction not already captured in the avoided cost of generation. To

illustrate, the price of avoided generation reflects the avoided value of capacity, but does not include the price (or value) of ancillary services avoided by on-site served load or P.U. Code 218 sales that would otherwise require the utility to procure or provide pursuant to the California Independent System Operator (CAISO) requirements. An additional reliability-related avoided cost is the reduced need for reliability must run (RMR) generation in a given geographical area because of the presents of QFs. Absent the QFs, the transmission system is unable to reliably deliver power to load without an increase in the generation support designated as RMR.

5.2 Total Avoided Cost Formula for Qualifying Facilities

This section details the formulation to determine the total avoided cost for long run QF commitments. The term “total long run avoided cost” and its use are defined. Then the long run avoided cost formulation is described.

5.2.1 Total Long Run Avoided Cost Definition

The term “total long run avoided cost” refers to the total cost avoided and is not limited solely to avoided cost associated with the LRMC “avoidable” generation resource. Accordingly, total long run avoided cost captures the overall benefits to all energy consumers and includes both direct savings and externality values.

The formulation of the long-run avoided cost for QFs provides the basis for establishing the payments to those QFs that do not voluntarily participate in the utilities’ bid-based procurement programs. The LRAC methodology reflects: (1) generation cost based on the all-in cost of a market entrant combined-cycle gas turbine plant; (2) value of the location of the QF; (3) avoided environmental-related costs; and (4) the disaggregation of designated avoided costs into time periods (i.e., utility tariff defined time-of-use (TOU) period).

5.2.2 QF Long Run Avoided Cost Formulation

The basic formulation of the total QF long run avoided costs has three basic components: (1) avoided generation-related costs, (2) avoided transmission and distribution costs, and (3) environmental externalities. The total long run avoided cost is computed as the sum of these three main components.

Formulation of Generation-Related Avoided Cost

The long run avoided generation-related cost is the sum of a fixed capacity component, an energy component and a reliability adder component. The fixed capacity component reflects a 20-year levelized price based on the cost of a CCGT allocated expressed in \$/kW-yr. The energy component is the product of the CCGT heat rate and monthly

indexed burner-tip natural gas prices, plus an annually escalated variable O&M price. For QFs serving on-site load or making sales pursuant to P.U. Code Section 218 (i.e., “self-generation served load”), the reliability adder component, as described in section 2.6, is applicable to the self-generation served load. Additionally, an adder to quantify the reduced need for reliability must run (RMR) generation in a geographical area provided by QFs is applicable on a case-by-case basis.

The avoided cost of capacity and energy is derived from the full all-in cost of owning and operating a CCGT base on parameters established at the time the QF enters into the long-term obligation with the utility. For example a QF executing a 20-year commitment in 2004 for deliveries beginning in 2004 would be have avoided costs based on the all-in cost of a CCGT with an installation date of 2004. The plant cost and performance data for a combined cycle baseload plant discussed earlier in this report are from a CEC August 2003 staff report. However, the CCGT cost appropriate for QF avoided costs is the CCGT cost determined at the time the QF enters its long-term commitment. Moreover, the costing parameters must harmonize with Commission adopted CCGT resource costs and with the Market Price Referent determination. In general, the generation LRMC reflects the cost to own and operate a merchant-owned combined cycle gas fired generator (CCGT) located in the California Control Area.

Formulation Of Burner-Tip Gas Price

The commodity at the California border is the starting point for each utility (e.g., PG&E at Malin, SCE and SDG&E at Topock). The burner-tip price is the sum of the California border commodity price plus the full cost, by individual utility service area, to deliver the commodity to a generation resource. The full delivery cost would included, but not be limited to, the intra-state transportation cost comprised of the transportation tariff rate plus shrinkage and all other tariff charges and fee applicable to delivery of natural gas to a generation resource.

Formulation of T&D Avoided Cost

The T&D avoided costs are directly related to the location of the individual QF. QFs located at or near load centers can avoid the need to upgrade or expand the transmission or distribution system. Moreover, self-generation served load is akin to conservation and would avoid transmission and distribution costs in much the same way. Accordingly, the applicability of a T&D avoided cost adder such as those described in section 2.5 is valid on a case-by-case basis.

Formulation for Avoided Emissions Cost For Cogeneration

Cogeneration is the sequential production of both thermal energy (such as heat or steam) used for industrial, commercial, heating or cooling purposes, and electric energy, from a single source of fuel. This unique dual use of a single fuel results in a reduction in the overall consumption of that fuel thereby providing environmental benefits in the form of reduced emissions. Accordingly, these QFs avoid emissions costs by the amount of reduced end-use natural gas consumption. As with the T&E avoided costs, the avoided emission cost adders, such as those described in section 2.4, are applicable on a case-by-case basis.

5.2.3 Aggregated Formula for LRAC

The following equations present the LRAC based payment applicable to QFs. The input dimensions have been removed to simplify the equation.

Total Long Run Avoided Cost

Long Run Avoided Cost = Capacity + Energy + Emission + T&D + Reliability

Where:

$$\text{Capacity} = [\text{LRMC Capacity}^{14} \times \text{Contract Capacity}]$$

$$\text{Energy} = [(\text{Heat Rate} \times \text{Burner-tip Gas Price}) + \text{O\&M Adder}] \\ \times [\text{Loss Adjustment}] \times \text{Delivered Generation}$$

$$\text{Emission} = [\text{Emission Rate} \times \text{Cogeneration replaced End-Use Gas Consumption}]$$

$$\text{T\&D} = \text{T\&D Rate} \times [\text{Self-Generation Served Load}^{15} + \text{Delivered Generation}^{16}]$$

$$\text{Reliability} = [\text{A/S Rate} \times \text{Self-Generation Served Load}] + \text{RMR Adder}^{17}$$

¹⁴ Based on the annual fixed capacity-related component of the all-in costs of a new entrant CCGT.

¹⁵ On-site served load and/or P.U. Code section 218 sales, if any.

¹⁶ Applicable on a case-by-case basis to reflect avoidance of transmission and/or distribution expansion costs, if any.

¹⁷ Applicable on a case-by-case basis to reflect avoidance of RMR costs, if any.

5.3 Total Short Run Avoided Cost

The short run avoided costs that form the basis for payment to QFs are comprised of a short-run capacity component and short-run energy component.

5.3.1 SRAC -- Energy

The short-run energy component is established by statute in P.U. Code section 390. Section 390 states, in part:

(b) Until the requirements of subdivision (c) have been satisfied, short run avoided cost energy payments paid to nonutility power generators by an electrical corporation shall be based on a formula that reflects a starting energy price, adjusted monthly to reflect changes in a starting gas index price in relation to an average of current California natural gas border price indices. The starting energy price shall be based on 12 month averages of recent, pre January 1, 1996, short run avoided energy prices paid by each public utility electrical corporation to nonutility power generators. The starting gas index price shall be established as an average of index gas prices for the same annual periods.

The following formula expresses the statutory language in the form of an equation:

$$P = P_{\text{Base}} + (P_{\text{Base}} * \frac{(GP - GP_{\text{Base}})}{GP_{\text{Base}}})$$

where:

P	=	SRAC Energy price for the current period.
P _{Base}	=	Base or starting energy price.
GP	=	Gas price for the current period per California border indices
GP _{Base}	=	Base or starting gas price

Accordingly, the SRAC energy component continues as prescribed by statute.

5.3.2 SRAC -- Capacity

As a result of electric utility restructuring, the Energy Reliability Index which measures the utility's need for capacity and establishes the level of SRAC capacity value has not been recently updated. Thus, the as-available SRAC capacity value varies widely among the utilities. Moreover, the utilities are procuring new capacity to meet their resource adequacy requirements.

Accordingly, the as-available SRAC capacity value for each utility should be updated to an established capacity value at the full capacity-related cost of a combustion turbine generator (CT) operating in simple cycle mode. As the as-available capacity value will vary over time, it should be updated on an annual basis. For example, the Commission Energy Reliability Index (ERI) formula is presented below:

$$\text{ERI} = e^{-(0.50 \times \text{Excess Reserve Margin})}$$

Where:

Excess Reserve Margin (as %) = (Actual Reserve Margin% – Target %)

$\text{ERI} \geq 0.1$ and $\text{ERI} \leq 1.0$

Assuming a target reserve margin of 17%, the ERI would be 1.0 (i.e., the full value of a CT) for any actual reserve margin below 17%. The time dependent as-available capacity rates are determined by allocating the annually determined as-available capacity value to utility TOU periods.