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Decision 98-09-040 September 3, 1998

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of Southern California Edison Company (U 338-E) for (1) Authority to Revise its Energy Cost Adjustment Billing Factor, its Electric Revenue Adjustment Billing Factor, its Low Income Rate Assistance, and its Base Rate Levels Effecting January 1, 1993; (2) Authority to Revise Energy Reliability Index and Avoided Capacity Cost Pricing; and (3) Review of the Reasonableness of Edison's Operations during the Period from April 1, 1991 through March 31, 1992.

ORIGINAL

Application 92-05-047
(Filed May 29, 1992)

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OPINION

This decision is concerned with two issues regarding the reasonableness of operations of Southern California Edison Company (Edison) during the period April 1, 1991 through March 31, 1992. Those two issues arise from Edison's execution and administration of Qualifying Facilities (QF) contracts and are referred to as the truncation issue and the energy at forecast rates (energy above nameplate) issue. Public hearing was held before Commissioner Neeper and Administrative Law Judge Barnett.

Background

In 1978, in reaction to the nation's dependency on foreign supplies of oil and skyrocketing energy prices, Congress passed the Public Utility Regulatory Policies Act (PURPA). (16 U.S.C. § 796 *et seq.*) One of the stated goals of PURPA was to encourage the development of alternative and renewable generation of electricity in the United States. To serve this end, PURPA set forth two major provisions. First, PURPA required utilities to interconnect with, provide back-up power to, and purchase power from QFs at prices up to a utility's avoided cost. Second, PURPA specifically exempted QFs from standard utility cost-of-service regulation.

Following the passage of PURPA, the Commission acted quickly to assure that California would take immediate steps towards development of QF power for anticipated future needs. In Edison's 1979 general rate case (GRC) decision, the Commission directed Edison to evaluate all existing and potential sources of cogeneration within its service territory. (Decision (D.) 89711 (1978) 84 CPUC 733, 847.) In response, in August 1979, Edison filed a study identifying 460 megawatt (MW) of potential cogeneration within its service territory. Later that year, the Commission stated that "full development of cogeneration and

[small power production] is of the highest importance to ratepayers and society . . . ." (D.91109 (1979) 3 CPUC2d 1, 14.)

In March 1980, the Commission adopted a policy to take all available steps to encourage and support the development of small power production and cogeneration facilities in California. (Resolution E-1872.) Shortly thereafter, the Commission directed Edison to:

> "...apply all possible vigor and imagination to its cogeneration program with the goal of bringing the maximum amount of cogeneration on-line in the shortest possible time." (D.92549 (1980) 5 CPUC2d 39, 156 (Finding of Fact 55, p. 169).)

In response to the Commission's directive, Edison adopted a goal of obtaining 2000 MW of alternative and renewable resources.

In September 1980, the Commission instituted a rulemaking to develop rules for implementing PURPA in California including the development of appropriate pricing terms and a framework for contracts governing utility purchases of power from cogeneration and QF facilities. Following extensive hearings and workshops, in January 1982 the Commission issued its "flagship" OIR-2 decision. The Commission reemphasized "California['s] longstanding demonstrated interest in promoting cogeneration and small power production" (D.82-01-103, 8 CPUC2d 20) by ordering:

> "...the major California utilities to file standard offer contracts for power purchases based on avoided cost principles. These offers shall be available to all cogeneration and small power facilities that qualify under [PURPA]. Th[is] decision finds that avoided cost pricing will promote the maximum efficient development of cogeneration and small power resources, diversifying the energy supply in California and reducing the state's oil dependence." (*Id.*, p. 24.)

The Commission explicitly rejected attempts by utilities to bargain for lower than avoided cost pricing for QF resources, stating that "payment of

avoided costs provides a basis for most fully exploiting all economical cogeneration and renewable energy resources." (*Id.*, p. 33.) The Commission further explained that "[a]voided cost pricing is intended to stimulate development of substantial generating capacity that will reduce utility oil and gas consumption." (*Id.*, p. 40.) While recognizing that payments of less than avoided cost would provide some savings to ratepayers, the Commission declared that "other advantages of cogeneration . . . outweigh this benefit." (D.91109, 3 CPUC2d 1, 15.) Indeed, the Commission even directed utilities to increase the pricing terms provided in pre-OIR 2 contracts that had been set at a discount below avoided cost to reflect "full avoided energy and capacity costs." (Resolution E-1907, p. 2.)

Thus, the Commission recognized that some QF resources likely could be developed at prices lower than full avoided cost. Nonetheless, it confirmed that "the terms adopted in this decision are intended to promote QF development." (D.82-01-103, 8 CPUC2d at 41.) The clear direction from the Commission was that liberal pricing terms would be used to encourage and foster the maximum development of QF resources, even at the expense of higher consumer prices. In those days we believed that "avoided cost pricing parallels the prices that would be established in a competitive market...." (8 CPUC2d at 40.)

In conjunction with our implementation of standard offer contracts, we developed a QF pricing system that had several liberal pricing provisions. First, we required utilities to file as-available capacity prices using the full cost of a combustion turbine as a proxy to estimate shortage cost, regardless of a utility's current reserve margin or access to cheaper short-term capacity purchases. Second, for long-term contracts under Standard Offer No. 2 (SO2), utilities were not allowed to discount the combustion turbine proxy in calculating shortage costs for near-term years in which their reserve margins were demonstrably

more than adequate to meet customer demands and at a time when they had access to capacity purchases at prices substantially below the cost of the combustion turbine proxy. This pricing structure resulted in QFs being paid more for capacity in the early years than it was really worth in terms of costs actually avoided and encouraged QFs to come on line earlier than needed. Third, utilities lacked quantitative controls or limitations on the total megawatts of capacity that QFs had a right to impose unilaterally on the utility and its customers. Utilities, therefore, had no control over the amount or price of QF power for which they were required to sign long-term contracts.

In 1982, Edison made two attempts to draw a closer relationship between realistic resource planning considerations and the calculation of avoided costs in its standard offer contracts. However, in Edison's 1983 GRC decision (D.82-12-055, 10 CPUC2d 155) and in the OIR-2 proceeding (D.82-12-120, 10 CPUC2d 553), the Commission rejected Edison's proposal. The Commission recognized that it had employed "imperfect measures of avoided cost" as surrogates, but decided in favor of the "upwards" biased combustion turbine alternative:

> "...because it gives a stronger incentive to cogenerators and small power producers. This is proper, we believe, because these power sources bring with them many important benefits to ratepayers which are difficult to quantify and [are] not captured in the avoided cost calculation." (10 CPUC2d 553 at 615.)

The message from the Commission to Edison continued to be that the utilities were required to encourage the maximum development of QF resources, even at the risk of higher payments for customers. The Commission viewed nonmonetary benefits, such as increased competition, environmental quality, fuel diversity, and reduced reliance on foreign oil, as outweighing the consumer costs associated with higher payments to QFs.

The Commission concluded that Edison's efforts to obtain lower costs for its customers "had a chilling effect on the development of QF resources," in violation of the Commission's policy in favor of "utility encouragement of cogeneration and other alternative and renewable resources...." (D.82-12-055, 10 CPUC2d 155, 255.) The Commission levied an $8 million fine on Edison for poor performance in signing QF contracts and reiterated that Edison had a duty "to exercise its best efforts to pursue and develop cogeneration and SPP [small power production] resources using avoided cost principles." (*Id.*, p. 258.)

With this penalty, the Commission sent an unambiguous message to the utilities: take affirmative steps to support and encourage the maximum development of QF power. Actions that could be perceived as chilling the growth of the QF industry would be viewed negatively by the Commission and would result in punitive action against the utility.

In April 1982, Edison and other California utilities filed their initial versions of Standard Offer Nos. 1, 2, and 3 (SO1, SO2, and SO3). Extensive hearings were then held regarding these submissions. In December 1982, the Commission ordered the utilities to refile their SO1, SO2, and SO3 contracts in compliance with certain principles and specific provisions. (D.82-12-120, 10 CPUC2d 553, 639.) In February 1983, Edison filed and made effective its revised SO1, SO2, and SO3 contracts.

Standard Offer No. 4 (SO4) was one of the standard offer variations originally announced by the Commission in D.82-01-103. It was to be a contract for long-term energy and firm capacity based on a long-run avoided cost methodology. Concerned about the delay in approving a final SO4 contract, the Commission, in 1983, adopted Interim SO4 (ISO4). (11 CPUC2d 476, 479.)

Capacity payments for ISO4 were to be based on an assumed immediate need for capacity and, like SO2 capacity payments, were based on the cost of a

combustion turbine. Under ISO4, however, energy pricing was markedly different. Three different payment options were developed, all based on an adopted 15-year forecast of avoided energy costs. In retrospect, this forecast proved to be very high. Energy Payment Options 1 and 2 under the ISO4 contract provided for fixed energy payments based on oil price forecasts that showed oil prices rising to $50/barrel by 1990, $83/barrel by 1997, and $100/barrel by the year 2000. In contrast, the price of oil today is less than $15/barrel.

The standard offer contracts not only committed California's utilities to prices significantly in excess of realized avoided costs, but they also resulted in significant oversubscription of QF resources. The Commission did not attempt to cap the total amount of QF capacity eligible for ISO4 or otherwise try quantitatively to control or stage the timing of QF development. The Commission explained its willingness to risk acquiring excess capacity in the short-term in order to assure a healthy and viable long-term QF program:

> "More troublesome, perhaps, for some is that we are adopting long-term standard offers based on forecasts of escalating avoided utility costs when there is no current shortage among California utilities. The question becomes: why stimulate QF projects which cannot now proceed in the generation marketplace, under the existing as-available or firm capacity offers based on short-run costs, by adopting offers based on long-run utility avoided costs? The answer is that standard offers based on long-run avoided costs are for long-run contract commitments. We would rather err on the side of trying to have QF capacity steadily come on line over time, than on that of ultimately risking a critical capacity shortage because we did not take reasonable steps to afford an opportunity for QF power, particularly long-term capacity, to be steadily developed." (D.83-09-054, 12 CPUC2d 604, 611 (emphasis added).)

The threat of excess capacity through oversubscription of QF contracts became a concern in California in the fall of 1984. In late 1984, Pacific Gas and Electric Company (PG&E) notified the Commission of an impending potential

oversupply problem in its service territory and requested that the Commission take remedial action. Edison expressed concern that, like PG&E, it also faced a growing QF capacity excess supply problem. Nevertheless, the Commission continued to encourage Edison in late 1984 to commit to additional QF capacity. In Edison's 1985 GRC decision, the Commission reviewed Edison's plan for development of cogeneration and small power production and the various obstacles that might inhibit Edison from reaching its goals. The Commission reiterated its "long-term commitment to support and encourage developers to bring on-line as many new projects as is feasible" by ordering Edison to "vigorously pursue" its QF development program. (D.84-12-068, 16 CPUC2d 721, 845.)

In 1985 the Commission recognized that QFs were likely being paid above-market rates for energy in the near term, but continued to encourage utilities to seek further development of QF resources, repeating the policy position that the utilities were expected to negotiate in good faith with potential large cogenerators for nonstandard contracts based on full avoided costs. (D.85-04-075, 17 CPUC2d 521, 539.) Later that year, ISO4 contracts for all utilities were suspended indefinitely, but we required utilities to continue to negotiate nonstandard QF contracts. (D.85-07-021, 18 CPUC2d 315, 329.)

With the suspension of ISO4, QF signings of SO2 contracts began to increase. A significant number of SO2 contracts were signed in early 1986. In March 1986, the SO2 contract was temporarily suspended because QF development had proceeded at a much faster pace than that assumed when the capacity prices for the respective utilities were last set, with the possible consequence that additional QF capacity would be overvalued under the present SO2. (D.86-03-069, 20 CPUC2d 644.) In May 1986, the SO2 suspension was continued indefinitely. (D.86-05-024, 21 CPUC2d 124, 137.)

By 1986 Edison had entered into more than 370 QF contracts, for a total of nearly 7,500 MW of capacity, subject to reasonableness review. Edison presently has $13.2 billion of QF contract payments subject to reasonableness review for the 1991-1996 Energy Cost Adjustment Clause (ECAC) record periods, of which over $8 billion are above contemporary market prices.

Truncation

The capacity factor of an electrical generator is measured by the amount of energy delivered during a specified time period. A QF is paid for firm capacity only up to its contract capacity level. That is, depending on the time interval chosen, energy delivered above the QF's contract capacity level is excluded (or truncated) in the firm capacity payment calculation. The issue in dispute is the appropriate truncation period used to calculate firm capacity and bonus capacity factors for QF firm capacity payments.

Edison truncates firm capacity for each time-of-use period on a monthly basis. Edison asserts that its truncation practice with respect to the standard and nonstandard QF contracts is reasonable. The contracts themselves do not specify a particular truncation interval.

The Office of Ratepayer Advocates (ORA) recommends a disallowance of $17.5 million for the 1991 and 1992 record periods because it believes Edison should have truncated energy deliveries for in-service territory QFs on a 15-minute basis and for out-of-service territory QFs on a 60-minute basis in calculating firm capacity payments. ORA contends QFs are overpaid because Edison truncates on a monthly basis by time-of-use period. According to ORA, Edison acted unreasonably by failing to choose the shortest practicable truncation interval. ORA recommends the disallowance should continue to be applied until Edison changes its contract administration practice.

This issue had been considered by us in 1993, in D.93-11-019 (52 CPUC2d 87) in a joint petition by Edison and the Division of Ratepayer Advocates (DRA) (the predecessor to ORA). We did not resolve the issue because we did not have the facts to allow us to respond completely to the joint petition. (Finding of Fact 10, 52 CPUC2d at 96.) However, the explication of the factors causing the controversy are clearly set forth in D.93-11-019 and are worth repeating (albeit in a truncated manner).

In regard to truncation we said in D.93-11-019:

> "Our comments on this issue begin by returning to one of the cornerstones of our QF program: A QF should be paid a price equal to the costs it enables the utility to avoid. A corollary of this principle is that a QF whose performance is equivalent to that of a corresponding utility plant, and who therefore permits the utility to avoid or defer construction or purchase of the plant, should receive the full costs associated with that plant.
>
> "In our initial development of the standard offers, we derived avoided cost-based prices for both energy (the actual electricity, usually measured in kilowatt-hours (kWh), produced by a generation unit) and capacity (the unit's potential to produce electricity, usually measured in kilowatts or megawatts (MW))."
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> * * *
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> "In D.82-12-120, we approved a PG&E firm capacity option that paid the full avoided capacity price if the QF maintained an average on-peak availability of 80%, comparable to the availability of a utility peaking unit. (10 CPUC2d 553, 584.) However, we had recognized in D.82-01-103 that for some QFs it would be infeasible to require and monitor availability, and the QF's on-peak capacity factor would be a better measure of reliability. (8 CPUC2d at 59.) Therefore, in D.82-12-120, we also approved, with minor modifications, PG&E's proposal for a second firm capacity option which permitted the QF to earn the full capacity payment if it achieved an on-peak capacity factor of 80%. (10 CPUC2d at 584.) We noted, 'Output requirements are an indirect way to assure availability for nondispatchable units'

(*id.*), and we essentially equated an average peak-period availability of 80% with an 80% on-peak capacity factor.

"We thus recognized that by actually generating electricity for a certain portion of peak periods, a QF clearly demonstrates its availability, and its presence on the system could allow the utility to avoid the costs of adding peaking capacity. In D.82-12-120, we approved performance standards that measure firm capacity based on a QF's output as an alternative to a standard based on availability. (*Id.*) The performance requirement of the Edison capacity option that led to the truncation issue was expressed in terms of the QF's output.

"2. The Dispute

"The truncation issue arises because of this assumed equivalence between on-peak availability and capacity factor. Some QFs commit to provide firm capacity at a level (the contract capacity) that is less than the theoretical capacity (the nameplate rating) of their generating equipment. A cogenerator, for example, may reserve part of its total generating capacity for use of its associated industrial process. Other QFs may employ technologies that allow them to rely on only a portion of their full generating potential; a hydroelectric project, to give a simplified example, may be able to commit to provide firm capacity only to the level of its lowest peak-period streamflow, even though its capacity at times of high water may be much greater.

"A QF with a larger nameplate capacity than contract capacity has the ability to meet the contract capacity-factor requirement without actually being available for the assumed equivalent period. For example, a QF with a 20-MW nameplate capacity and a 10-MW contract capacity could qualify for full capacity payments for its 10 MW of contract capacity by running at its full nameplate capacity for only 40% of the on-peak period; it could produce twice the energy in half the time and still produce the number of kWh that would equate to an 80% contract capacity factor. This pattern of generation undermines the assumed equivalence with the availability of the comparable utility unit and thus the justification for paying full avoided capacity costs.

"Truncation is a way of testing the correspondence between output and availability for QFs who choose to demonstrate their firm capacity by maintaining an 80% on-peak capacity factor. If the amount of energy actually produced during a defined period exceeds the maximum amount that could be produced during the period at the contract capacity, the excess is 'truncated' and the QF receives credit only for the amount associated with the contract capacity.

"Thus, if the truncation interval is one hour, and the QF described in the preceding example generates at 20 MW for one hour (producing 20 megawatt-hours (MWh)), it would receive credit for only 10 MWh (corresponding to the maximum output at its 10-MW contract capacity) for purposes of determining whether it meets the 80% capacity factor to qualify for firm capacity payments. Only the total amount of energy produced during the truncation period, not the level of generation, is measured; actual output could vary considerably above or below the contract-based maximum during the period, but as long as the total energy was within this maximum, no truncation would occur.

"The dispute here arises due to the length of Edison's truncation interval. Edison's practice in administering its standard offer-based contracts has been to use a truncation interval of one month. The capacity payment formula gives credit for all generation within the month, even generation at a level above the contract capacity, up the maximum generation possible at the level of the contract capacity for the month. Thus, a QF could generate at a level above its contract capacity and balance that excess generation against periods of low or no generation. The availability of these QFs is uncertain; in the example cited previously, the availability may be no greater than 40%, although the QF is being paid on the assumption that it is available 80% of on-peak hours. DRA's concern is that 'Edison cannot rely on deliveries exceeding contract capacity from a firm QF, nor can it rely on contract capacity that is not available for a portion of the peak because the QF is able to average peak deliveries over the entire month.' (Petition, p. 19.)

> "DRA recommends that a 15-minute truncation interval would more accurately measure the correspondence between output and availability." (52 CPUC2d 87, 91-93.)

We have set forth in detail the excerpt from D.93-11-019 because it presents a clear exposition of the truncation issue and it shows that the problem is not new. However, D.93-11-019 was concerned with a future course of conduct for Edison; the case at bar deals with the reasonableness of Edison's truncation choice in the 1983-86 era. In retrospect Edison may have made the wrong choice, but that is not our concern today. In a reasonableness review proceeding we are concerned with the choice made as of the time of choosing.

> "In our review of the reasonableness of any utility action, the Commission has applied certain general principles. The starting point of the review of both traditional and QF decisions by the utility has been the same. Namely, the event or contract is to be reviewed based on facts that are known or should have been known by the utility management at the time. This standard is used to avoid the application of hindsight in reviewing the reasonableness of a utility decision." (D.90-09-088, 37 CPUC2d 488, 499.)

Similarly, with respect to the review of nonstandard agreements, the Commission has found:

> "While any power purchase agreement based on suspended interim Standard Offer 4 would appear costly at the present time, we find that it is reasonable to evaluate [these] agreements in light of the actual Commission directives and economic conditions in effect at the time of the parties' negotiations." (D.86-06-060, 21 CPUC2d 287, 297.)

Edison's Presentation

Edison's witnesses testified that monthly truncation is consistent with the terms of Edison's standard offer contracts, Commission decisions, and the intent of the parties; and that Edison made a reasonable decision based on what was known in 1983. They said that in 1983, when Edison began administering its firm

capacity standard offer contracts, a decision had to be made regarding the appropriate time interval for truncating energy deliveries for purposes of measuring capacity. The Commission had recently ordered Edison and other utilities to offer QFs standard offer contracts. (D.82-01-103, 8 CPUC2d 20, 58.) The Commission's resolve to rapidly develop alternative and renewable resources had been strongly reinforced on Edison's management by an $8 million penalty levied against the company for failing to offer QFs full avoided costs and for bargaining too hard. (D.82-12-055; 10 CPUC2d 155, 202.)

The witnesses testified that it was in this context that a supervisor in Edison's Cogeneration/Small Power Development Division in 1983 made the decision to use monthly truncation. The monthly interval has been uniformly and consistently followed since 1983. This course of performance effectively supplied the missing term of the standard offer contracts. The supervisor considered several factors in making his decision. He considered language in the Commission-approved contract that limited the rate of delivery to the contract capacity. Based on his investigation and discussion with people familiar with the payment formula, he concluded that the language was intended to limit the monthly average delivery rate, and not the hourly delivery rates. He also considered the recently-enunciated Commission policies that utilities were to treat QFs no differently that the utilities treated their own generating capacity. He found that Edison measured the capacity factors of its own generating units on a monthly basis. He was aware of the recently levied $8 million penalty and the Commission's order that utilities should not, through administration, take away full avoided cost benefits.

The supervisor's decision was reviewed by his supervisors who concurred with his judgment. During this 1983 period, a manager in the Cogeneration/Small Power Development Division and a principal architect of

early standard and nonstandard offer contracts verified that the "rate of delivery" provision in the standard offer contracts was always intended to be enforced on a monthly basis. The manager of the Cogeneration/Small Power Development Division from 1983 to 1985 also reviewed the 1983 decision. He analyzed the firm capacity payment provisions of the SO2 and ISO4 contracts and concluded monthly truncation was consistent with all contract terms.

An Edison witness testified that a monthly truncation interval is consistent with the terms and conditions of Edison's standard offer contracts and conforms to the intent of the parties to the contract. He said there are no terms of the firm capacity standard offer contracts that even remotely suggest a 15-minute truncation interval was intended to be used.

An Edison witness testified that shortly after the time Edison made its truncation decision Edison was familiar with the Commission decisions regarding Pacific Power & Light (PP&L). These contemporaneous Commission decisions explicitly approved a monthly truncation for PP&L's California QF contracts. The Commission in D.82-01-103 directed PP&L to file an application for its proposed long-term standard offer for power purchases from QFs. (D.82-01-103, 8 CPUC2d 20, Ordering Paragraph No. 26, p. 122.) In response, PP&L filed for approval of its long-term standard offer.

PP&L's Standard Offer No. 3 (PP&L SO3) is a long-term contract based on a projected fixed-price payment stream for firm capacity and energy for five years. (D.83-11-047, 13 CPUC2d 194.) This contract is similar in many respects to Edison's ISO4 contract, while PP&L's SO2 contract is similar to Edison's SO2 contracts. In reviewing the capacity payment and performance requirements of QFs under PP&L's Commission-approved firm capacity standard offer contracts, the Commission explicitly authorized a monthly truncation period. The Commission stated that firm capacity payments should be calculated as follows:

> "Production in excess of the minimum level (on a monthly basis, calculated only according to the peak hours adopted here) should be compensated according to the as-available price." (D.83-11-047, 13 CPUC2d 194, 206.) (Emphasis added.)

The firm standard offer contracts submitted by PP&L reflected the monthly truncation authorized by the Commission. The Commission adopted three standard offer contracts for PP&L. PP&L's firm standard offer contract provides:

> Demonstrated Capacity is the actual ability of the Facility to generate and deliver electric power useful to Pacific in meeting its capacity requirements during the Peak Load Hours, expressed in kW and determined on a monthly basis from the Net Metered Output. (PP&L Agreement (dated December 21, 1983), Article I.(c), p. 2, Technical Appendix, Item 9. (Emphasis added.)

Edison presented testimony that in 1983 the Commission staff was fully aware of Edison's monthly truncation practice. Mr. John Quinley, the Commission staff's principal representative on QF matters at that time, reviewed the firm capacity standard offer contract Edison submitted in 1982. He testified that his subordinate, Mr. William Flaherty, knew of Edison's monthly truncation practice. Mr. Quinley stated his belief that, had the issue been presented to the Commission in the early 1980s, all utilities would have been required to use a monthly truncation period.

William B. Marcus, Principal Economist of JBS Energy, Inc., testified for Edison. He said that in April 1982, he left the California Energy Commission where he had served as a senior economist. He was a witness for the Independent Energy Producers Association (IEP) in the proceeding that led to the approval of SO2 as well as a number of other proceedings, including the long-run standard offer proceeding and rate cases for PG&E and Edison. He attended parts of the negotiating conference in 1983 that ultimately led to the approval of ISO4 for the major utilities. He testified that as far back as 1982 he was aware

that PG&E and Edison used different methods to measure energy deliveries for purposes of determining firm capacity payments. PG&E adopted a practice of measuring energy deliveries based on a meter reads of a half-hour. Edison adopted a practice of measuring energy deliveries on the basis of monthly averages by time periods.

He said that in their compliance filing to the OIR 2 decision (D.82-01-103), PG&E and Edison had different approaches. PG&E proposed its truncation policy together with stringent qualifications for firm capacity. Instead of following a truncation policy, Edison proposed a different way of dealing with firm contracts for intermittent resources: to pay them for all generation produced on a monthly average basis without hourly truncation, but to pro-rate the capacity payment by the capacity factor actually achieved, and to further reduce payments for (1) unavailability in emergencies (emergency factor), and (2) availability of less than 50% in the peak period of any given month (hurdle factor).

He testified that he was a witness in the consolidated short-run avoided cost docket in 1982 which reviewed those compliance filings. His testimony in that docket was to the effect that PG&E's minimum reliability standards for firm capacity combined with its truncation method did not properly value intermittent resources such as wind by allowing those projects only to receive SO1 contracts whose capacity prices fluctuated. He also opposed Edison's hurdle and emergency factors.

He noted that in D.82-12-120 the Commission rejected the hurdle and emergency factors proposed by Edison. That decision adopted qualifications for firm capacity based on 80% availability in summer months. However, it was silent on the half-hourly truncation versus monthly-average truncation. The two utilities continued to follow their different truncation practices. After Edison

continued its monthly average policy, he viewed Edison's firm capacity policy, at least as applied to resources like wind, as an attempt to better reflect that intermittent resources provide some capacity value that would not be properly paid under fluctuating SO1 capacity prices.

He concluded that this difference in measurement practices was known and understood by members of the QF community, Commission staff members, and the utilities. He is aware of no wind producers who signed firm capacity contracts with PG&E because of PG&E's half-hourly measurement practices. He is aware of several wind producers who signed firm capacity contracts with Edison (based on a relatively small fraction of their nameplate capacity) in reliance on its practice of using monthly average measurements.

Finally, an Edison witness pointed out that ORA's recommendation seeks to impose on Edison only one aspect of PG&E's contract administration practices. However, the standard offer contracts of the three utilities are not identical. Each contract represents a unique economic package of different terms and conditions. ORA's recommendation effectively would impose one aspect of PG&E's contracts on Edison's administration without considering other features of the respective contracts. This selective switching of contract terms and practices would upset the economic balance contained in each standard contract. He testified that when all contract payment terms of the PG&E contract (including 30-minute truncation) are used to calculate Edison's payments, the PG&E contract approach results in higher payments to QFs than Edison's contracts with monthly truncation.

ORA's Presentation

ORA argues that Edison's authority to truncate stems from the QF's obligation to provide firm power and Edison's obligation to only pay for firm

power. Pursuant to the terms of SO2 and ISO4 contracts, QFs promise to provide firm capacity. In 1982, the Commission stated that:

> "By definition, firm power is provided in predetermined quantities at predetermined times with sufficient legally enforceable guarantees of deliverability to permit the purchasing utility to avoid the construction of a generating unit or the purchase of firm power elsewhere. A QF providing firm capacity was determined to avoid costs additional to those related to as-available power. This result was to be reflected in the firm capacity payment." (D.82-12-120, 10 CPUC2d 553, 568; 37 CPUC2d 488, 506.) (Emphasis added.)

ORA asserts that prudent contract administration requires the utility to ensure compliance with contract terms. (37 CPUC2d at p. 558.) QF power should not be developed at any cost, but rather at reasonable cost to the utility's ratepayers. (37 CPUC2d at p. 578, Conclusion of Law 8.) In administering QF contracts in 1983, Edison should have ensured compliance with the provision to provide the firm capacity that was bargained for, i.e. power "...provided in predetermined quantities at predetermined times..."

This authority to truncate is expressed in the language of the standard offer contracts. The payment provisions in SO2 for payment option 2 state the following:

"Monthly Capacity Pd. Payment =
(Contract Capacity Price)
x (Conversion to Monthly Payment)
x (Contract Capacity)
x (Period Performance Factor)

Where: Period Performance Factor =

$$\frac{\text{kWh Purchased by Edison}^{*}}{0.8 \times (\text{Cont. Capacity}) \times (\text{Pd. Hrs.} - \text{Allowable Maintenance Hrs.})}$$

The Period Performance Factor Cannot exceed 1.

*Only by mutual agreement can the kilowatt hours used in this Period Performance Factor calculation be delivered to Edison at a rate of delivery greater than the Contract Capacity." (SO2, § 6.2.)

The firm capacity payment provisions in ISO4 similarly exclude deliveries in excess of contract capacity from the capacity factor calculation. Specifically:

"Period Performance Factor" is calculated with the "period kWh purchased by Edison limited by the level of contract capacity," and "not to exceed 1.0." (ISO4, § 9.1.2.1.)

In determining bonus payments, the On-Peak Capacity Factor:

"not to exceed 1.0, is calculated (based upon) period kWh purchased by Edison limited by the level of contract capacity." (ISO4, § 9.1.2.5.)

Edison has always metered deliveries from QFs at 15-minute intervals, but does not truncate deliveries until the project has earned its full firm capacity payment and the maximum bonus payment for the period. Edison truncates deliveries only for those projects which have average monthly deliveries over their contract capacity, and therefore have a Period Performance Factor (PPF) or On-Peak Capacity Factor (OPCF) greater than 1.0.

ORA's witness testified that ORA's position on truncation relies upon the definition of "rate of delivery" in the SO2 firm payment formula, which ORA contends should be interpreted as the rate of delivery at the interval recorded by the metering equipment, which is every 15 minutes for QFs in Edison's service area.

Similarly, in the ISO4 contract, ORA's position on truncation relates to the definition of the phrase "limited by the level of contract capacity," which ORA maintains limits deliveries in each 15-minute metering interval. Capacity is an instantaneous concept. It is a measure of potential energy output in kilowatts, not kWh or kW-year. To limit deliveries to a level of capacity means that the level of deliveries should not exceed that amount at any point in time. Since Edison's meters recorded 15-minute data, that is the appropriate interval at which to enforce this provision.

In addition to the formula above, the SO2 and ISO4 contracts also state that the PPF will be capped at 1.0. The witness said that capping the PPF at 1.0 effectively excludes any kWh in excess of contract capacity on a monthly basis. Edison's capacity payment practice enforces the capping of the PPF at 1.0 but does nothing more to truncate deliveries exceeding contract capacity.

ORA contends that if monthly truncation were adequate, the language excluding deliveries and limiting the rate of delivery would not have been necessary since the PPF is capped at 1.0. ORA says that Edison's practice is based upon the assumption that these provisions are meaningless. ORA maintains that, when the Commission reviewed and approved this language, it did not assume that Edison included this language without any meaning. ORA believes that this language, ignored by Edison entirely, changes the meaning of the contract such that Edison's monthly truncation practice is not sufficient to comply with the terms.

As a result of Edison's imprudent contract administration, ORA recommends a disallowance of $17.5 million associated with firm capacity truncation during the 1991 and 1992 record periods.

Discussion

For the reasons stated below, we find that Edison was not unreasonable in adopting a monthly truncation policy in the interpretation of the payment provisions of its QF contracts. But we admit to being baffled by the fact that truncation is an issue at all. The contracts before us are as detailed and complex as competent professionals can draft, with numerous defined terms and elaborate explanations of complicated procedures. Yet the contracts lack a simple definition of a relatively simple concept—the time period to measure the capacity factor of the generator. This lack of definition puts Edison at risk for $17.5 million in the record period and tens of millions of dollars over the life of the contracts. Edison has about 370 QF contracts, about 100 of which raise this same question of interpretation. Our review of the PG&E and San Diego Gas & Electric Company (SDG&E) QF contracts shows that they also lack this necessary capacity factor definition. The Commission's analysis of the QF standard offer contracts proposed by Edison, PG&E, and SDG&E set forth in D.82-12-120 (10 CPUC2d 553) discussed in detail every aspect of a QF contract, including QF capacity, QF capacity factor, and payments to QFs for capacity and energy. Yet neither the Commission nor the parties (representing every aspect of the utility and QF industries) felt the need to determine the period of time over which the capacity factor would be computed. The omission seems deliberate but we will not speculate as to the reason.

Our standard for assessing the reasonableness of utility conduct is:

> "The reasonable and prudent act is not limited to the optimum act, but includes a spectrum of possible acts consistent with the utility system need, the interest of the ratepayers, and the requirements of governmental agencies of competent jurisdiction." (D.90-09-088, 37 CPUC2d 488, 499, emphasis added.)

Edison presented evidence from many percipient witnesses, including Commission staff and outside experts present at the beginning, demonstrating that a monthly truncation interval was reasonable. Edison's position is supported by a Commission decision approving monthly truncation. No percipient witness supports ORA's position that a 15-minute truncation interval should have been used. No Commission decision supports ORA's position that monthly truncation is improper. ORA's position is based solely on an analysis of the contracts years after contract execution, an analysis limited to one contract provision taken without considering other provisions of the contract. ORA's position, like Edison's, is not unreasonable. But that does not make Edison's position unreasonable.

ORA refers to the contract language that says, "The Contract Capacity shall be delivered for all of the on-peak hours...in each of the peak months...." (Exhibit 98-7, Tab 2, page. B.2-4, Section 6.1.1.) It argues that this is a clear and unambiguous contract provision to provide capacity for *all* on-peak hours, and is also consistent with the "firm power" commitment (as defined in 1982) to provide capacity at predetermined quantities at predetermined times. ORA says that monthly truncation allows a QF to generate at a level above its contract capacity and balance that excess generation against periods of low or no generation. Because monthly truncation allows a QF to provide low or no generation during on-peak hours beyond the contractual 20% allowance for forced outage, monthly truncation diminishes the "firm power" commitment to provide capacity at predetermined quantities at predetermined times and to deliver firm power during all on-peak hours.

Monthly truncation is unreasonable, ORA continues, because it fails to ensure compliance with the clear and unambiguous terms of the QF contract and also frustrates the contract intent that Edison benefit from the QF's promise to

make a firm resource available during all on-peak hours. In D.90-09-088, the Commission stated that, "In exchange for providing a firm resource, ... the QF was entitled to earn a higher capacity payment." (37 CPUC2d at p. 563.) Thus, ORA concludes, if a QF is not fulfilling its obligation to provide firm power as defined in 1982, the QF should not be compensated.

In response to ORA's claim that monthly truncation does not conform to the Commission's requirement that QFs should provide firm capacity "in predetermined quantities and at predetermined times," Edison asserts that if the Commission had wanted utilities to measure deliveries from QFs in 15-minute intervals, it could have stated so expressly in its decisions and insisted that the standard offer contracts include language requiring such intervals. Edison contends that other than the PP&L contracts, which explicitly provide for monthly truncation, the Commission did not require any specific truncation interval. Utilities were left with only the vague and general guidance of the phrase "predetermined times," which ORA now, many years after the fact, seeks to define in a way that suits its present purposes.

Edison argues that ORA also misconstrues the provisions of the SO2 and ISO4 contract that refer to contract capacity being "delivered for all of the on-peak hours...in each of the peak months." ORA claims this is a "clear and unambiguous" direction for Edison to truncate on a 15-minute basis. Edison states that ORA conveniently paraphrases this provision as requiring contract capacity to be delivered "during" all peak hours. Edison's monthly truncation practice is in fact more consistent with the actual wording, which requires that contract capacity be delivered "for" all on-peak hours. ORA interprets the word "all" to mean that the QF's contract capacity must delivered during "each" peak hour. However, the contract drafter clearly specified "each" peak month when that was intended. Averaging deliveries for "all" peak hours in each peak

month, Edison believes, is more consistent with the terms of the SO2 and ISO4 contracts than ORA's after-the-fact interpretation.

In regard to D.82-12-120, in which the Commission stated that "firm power is provided in predetermined quantities at predetermined times...," Edison adds that the Commission, in the very same decision, and in earlier decisions, placed limits on what utilities could demand from QFs. For example, the Commission stated:

> "Reasonable requirements for reliable operation and availability during utility system peak load periods are to be imposed in the standard offers. These requirements, however, should not be unduly restrictive or complicated or impose standards of reliability greater than the utility plants the QF displaces. When resource limitations exist to reliable operations, such as with wind parks, plant capacity factor may be a better measure of reliable operations." (D.82-12-120, 10 CPUC2d 553, 569; see also, D.82-01-103, 8 CPUC2d 20, 59.)

Edison measures the capacity factors for its own generating units on the basis of their monthly energy production. (Ex. 98-5, pp. 20-21; Ex. 98-10, pp. 12-13; see also, D.82-01-103, 8CPUC2d at p. 58.) ("The value of each of these capacity payment terms shall be calculated, based on the standards comparable to the performance standards the utility would impose on its own plants.") Edison's monthly truncation practice conforms with the Commission's guidance that QFs should be treated no differently than the utility's own generation. More importantly, monthly truncation did not violate any Commission decision or term of Edison's Commission-approved contracts.

Edison concludes that ORA's recommendation is an attempt to write a new term into the standard offer contracts, 15 years after the fact, that is designed to take advantage of how actual events have turned out. ORA, however, does not recite any provision of the standard offer contracts signed by the parties that would require a short truncation interval. Nor does ORA refer to a single

Commission decision that would have required the short truncation interval ORA now advocates. Finally, ORA ignores the understanding held by the parties to the contracts. In the absence of any evidence Edison violated a specific Commission decision or a term of the standard offer contracts, the decision to use a monthly truncation interval should be found reasonable.

ORA contends that under Edison's monthly truncation practice, the contractual exclusion of energy in excess of contract capacity is completely redundant to the contractual limitation of the PPF and the OPCF to 1.0, and therefore is a meaningless provision. However, ORA overlooks the point that regardless of the truncation interval used to exclude energy above the contract capacity, the 1.0 limit remains a necessary contract provision. Because the contract payment formula (CPF) provides for a denominator less than 1.0, a QF which delivers, on average, 100% of its contract capacity it would have a PPF of 1.25 absent the limitation of the PPF to 1.0. This is true under either a 15-minute or a monthly truncation regime. Under either approach, the 1.0 cap serves the same purpose of ensuring the QF is not paid for capacity exceeding its contract capacity.

In our opinion, the evidence shows that in 1983, Edison acted reasonably in determining contract capacity using monthly truncation. Merely because ORA's method of 15-minute or half hour truncation is also reasonable does not detract from our conclusion. Therefore, we need not consider the fairness of imposing liability in 1998 for activity in 1983 instigated at the behest of this Commission, and followed openly for 15 years with the full knowledge of the Commission and our staff.

In 1983, at a time when we were trying to assist in developing the QF industry, we required Edison to offer full avoided cost pricing for QF contracts. Edison had been penalized $8 million for bargaining too hard with QFs. The

standard offer contracts of Edison, PG&E, and SDG&E do not specify the interval for measuring energy deliveries for purposes of calculating firm capacity payments to QFs, but PP&L's standard offer contract, approved by the Commission in 1983, specifies monthly truncation. Edison's practice of using monthly truncation is consistent with the other terms of its standard offer contracts, as well as its own operations.

The "rate of delivery" and "limited by level of contract capacity" provisions of Edison's standard offer contracts do not imply 15-minute, or any particular, limit. There is no contract language to support a specific limit. Edison's monthly truncation practice complies with the guidance this Commission gave utilities in early decisions on QF contracts. In the early 1980's representatives of the QF industry and Commission staff knew Edison used monthly truncation. The evidence is uncontroverted that Edison's practice results in lower capacity costs to customers than PG&E's shorter truncation period when all contract capacity payment terms are considered.

We cannot fail to recognize that had Edison used 15-minute truncation given the other terms of its standard offers, the result would not necessarily have been lower payments. There is no evidence that QFs would have signed the contracts as proposed or performed under the contracts as they did. Payments reduced by some $17 million a year would be expected to cause changes in QF behavior.

Energy and As-Available Capacity Payments at Forecast Rates

The Edison ISO4 contract approved by the Commission is a long-term contract that allows QFs the option of choosing fixed energy and capacity prices. During the first ten-year period (for QFs with 20 years or longer contracts), energy prices may be based on forecasts that were approved by the Commission. Similarly, forecasted as-available capacity prices could have been chosen by the

QF at prices pre-approved by the Commission. The forecast energy and as-available capacity prices in the ISO4 contracts significantly exceed current avoided cost energy and as-available capacity prices. The issue in dispute between Edison and ORA is whether forecast prices or current avoided cost prices should be paid for energy and as-available capacity delivered above the nameplate rating designated by the QF in its ISO4 contract.

Edison's ISO4 contract has features similar to a typical commercial output contract. Under contracts of this type, the buyer is obligated to purchase the output of the seller. The buyer's obligation to purchase the seller's output may be limited if the seller does not act in good faith or the actual production is unreasonably disproportionate to the expectations of the parties at the time the contract is executed. In the case of Edison's QF contracts, the nameplate rating of the QF's facility and estimates of production are stated in the contract to provide a measure of the parties' expectations. The acceptable amount of production in excess of the nameplate rating and stated estimates will thus depend on the particular facts and circumstances of the seller.

Pursuant to Edison's approved ISO4 contract, Edison is required to purchase, and the QF is required to sell, the energy and capacity produced by the QF's generators and delivered to Edison at a designated interconnection point.

ORA claims payments of forecasted energy and as-available capacity prices for deliveries above nameplate are unreasonable and should be disallowed. ORA contends that although minor variations above nameplate may be tolerated, overinstalled QF projects consistently delivering power above nameplate should not be paid forecast prices. In ORA's opinion, if the gross installed nameplate capacity exceeds the nameplate capacity identified in the ISO4 contract, the QF is overinstalled.

Edison's ISO4 contracts allow QFs to be paid for energy and as-available capacity delivered to the interconnection facility at fixed forecast rates specified in the contract. Edison argues that Commission decisions and general industry experience recognize that the manufacturer's nameplate rating of a generating unit is not an absolute limit on the unit's output capacity. Production above the generator's nameplate rating is reasonably expected and this was known by Edison, the QFs, and the Commission at the time the contracts were executed. Neither Edison nor the QFs intended that the designation of a nameplate rating in the ISO4 contract would impose an absolute limit on the amount of capacity the QF would install or the amount of energy the QF could deliver at forecast rates under the contract.

To put the issue in this proper perspective, we set forth the projects involved, the alleged overpayments, and the nameplate ratings--installed and contractual.

SUMMARY OF ORA'S ENERGY AT FORECAST RATES DISALLOWANCE RECOMMENDATION (1991-1992 Record Year)

QF	Energy Production (000 kWh)	Energy Payments				
		Total Payments ($)	Deliveries Above Nameplate			
			Amount		Percent	
			kWh (000)	$	kWh	$
Imperial Resource Recovery (QFID 1043)	97,609	8,766,070	11	717	0.01	0.00
Harbor Cogeneration (QFID 2067)	1,278,386	53,804,122	6,511	366,020	0.51	0.68
Oxbow (QFID 3011)	946,080	80,225,938	6,519	358,377	0.69	0.45
Beowawe (QFID 3017)	183,639	15,605,106	530	31,936	0.29	0.20
Mammoth Pacific I (QFID 3018)	122,804	10,693,644	21,717	1,224,958	17.68	11.46
Salton Sea (QFID 3025)	809,110	79,398,721	2,784	193,244	0.34	0.24
Mammoth Pacific II (QFID 3027)	126,022	10,920,671	6,213	350,457	4.93	3.21
TOTAL	3,563,650	259,414,272	44,285	2,525,709	1.24%	0.97%

Mammoth Pacific II is the only project delivering as-available capacity. ORA would disallow $16,533 of payments for as-available capacity during the 1991 and 1992 record periods.

COMPARISON OF INSTALLED NAMEPLATE TO CONTRACT NAMEPLATE CAPACITY (1991-1992 Record Year)

QF	Installed Capacity Nominal Rating	Auxiliary Load	Transmission Losses	Effective Net Rating	Contract Nameplate	Over or (Under)	
						Amount	Percent
Imperial Resource Recovery (QFID 1043)	18.1	2.2	N/A	15.9	15	0.9	6%
Harbor Cogeneration (QFID 2067)	81.8	1.8	N/A	80	80	0	0%
Oxbow (QFID 3011)	60.5	3.5	1.7	55.3	56	-0.7	(1%)
Beowawe (QFID 3017)	17	2.4	1.6	13	12.5	0.5	4%
Mammoth Pacific I (QFID 3018)	15	2.25	N/A	12.75	12	0.75	6%
Salton Sea (QFID 3025)	54	2.9	1.5	49.6	49.8	-0.2	0%
Mammoth Pacific II (QFID 3027)	15	2.25	N/A	12.75	10	2.75	28%
TOTAL				239.3	235.3	4	2%

The Commission and the Federal Energy Regulatory Commission (FERC) define nameplate to exclude station use and transmission losses to the interconnection point. Nevertheless, ORA claims there is no reason to consider auxiliary load or transmission losses in determining the installed nameplate capacity of a generator. ORA states that the term nameplate rating clearly refers to the manufacturer's rating of the generating unit and does not mean the manufacturer's rating less auxiliary load, less line losses. ORA's position is not persuasive.

As early as 1981, the FERC found the power production capacity of a qualifying facility was:

> "the maximum net output of the facility which can be safely and reliably achieved under the most favorable operating conditions likely to occur over a period of several years. The net output of the facility is its send out after subtraction of the power used to operate auxiliary equipment in the facility necessary for power generation (such as pumps, blowers, fuel preparation machinery, and exciters) and for other essential electricity uses in the facility from the gross generator output." (Occidential Geothermal, Inc., 17 FERC ¶ 61, 231 at 61, 445 (1981).

This principle was recently reaffirmed by FERC. See Connecticut Valley Electric Co. Inc. v. Wheelabrator, 82 FERC ¶ 61, 116, FERC Docket No. EL9-10-000 et al. (Feb. 11, 1998).)

Based on the FERC's definition of QF capacity, it would be reasonable for a QF signing an ISO4 contract to assume the nameplate capacity level designated in the contract was its net, not gross, capacity, after consideration of auxiliary power requirements and transmission losses. Additionally, although the ISO4 contract does not define "nameplate," when it has been defined in Commission-approved standard offer contracts, it has been defined in a manner inconsistent with ORA's position. For example, in Uniform Standard Offer No. 1 (USO1), which is applicable to all three major electric utilities and which was approved by

the Commission in D.89-02-065, the project summary section of the agreement states:

1.1 Seller's Generating facility:

(a) . . .

(b) Nameplate Rating ___kW (Net of Station Use) . . .

"Nameplate Rating" is itself defined in Section 2.14 of USO1 to mean:

The gross generating capacity of the Generating Facility less Station Use. For purposes of this Agreement, Nameplate Rating is that rating specified in Section 1.1(b) of the Agreement. (Emphasis in original.)

Similarly, in Final Standard Offer No. 4 (FSO4), which was approved for all three utilities in D.92-12-021, the term "Nameplate Rating" appears as follows in the project summary section:

"1.2 Characteristics of Seller's Generating Facility:

(a) . . .

(b) Nameplate Rating: __kW (Net of Station Use) (emphasis in original).

"Nameplate Rating" is defined in FSO4 in essentially the same terms as USO1; that is, as being net of auxiliary power (or station use) consumption.

Thus, in each of the instances where the term "nameplate rating" has been defined in a Commission-approved standard offer agreement, it has been defined as a net figure that takes into account deductions for auxiliary power. There is no reason to believe that the concept of nameplate in Edison's ISO4 was intended to have a different meaning or that a QF would have been acting unreasonably if it viewed the nameplate designation in its contract as denoting a net figure. The ISO4 contract requires the QF to deliver its power to the point of interconnection with the utility. Line loss must be considered. The nameplate rating in the contract is a net amount delivered to the point of interconnection.

Edison is only obligated to purchase the power that actually flows through its meter from the QF generating facility. This power is limited by the ability of the prime mover to supply driving power, the ambient temperature and the power consumed between the generator and the meter. Thus, the metal nameplate affixed to the generator is not sufficient to determine the maximum output of a QF generating facility. Nor is it sufficient to determine the output under real world operating conditions, which can result in generation less than the nameplate rating of the generator.

ORA asserts that it is clear that several projects are still significantly overinstalled. It argues that we must decide what level of overinstallation is considered to be beyond the reasonable expectations of the parties in order to determine the level of disallowance appropriate in this proceeding. ORA recommends a threshold of 10% overinstallation in most cases. ORA believes that any QF should have expected that its actual, installed capacity should be within 10% of the nameplate rating designated in its contract. ORA also believes that any QF which determined that it wished to install a facility more than 10% above the contractual nameplate rating should have been required to negotiate a contract amendment which reflected then-current avoided cost projections. ORA contends that using all the information provided by the manufacturer regarding nameplate rating, the following projects are more than 10% overinstalled. MP I is 50% overinstalled. Beowawe is 36% overinstalled. Ormesa I is 34% overinstalled. MP 2 is 25% overinstalled. Imperial Resource and QFID 1027 are both 21% overinstalled. Vulcan/BN Geothermal is 17% overinstalled. The overpayments associated with only these projects would be $2.7 million for the combined 1991 and 1992 record periods. In addition, ORA says that we should add to the disallowance $0.3 million for overpayments to projects for which Edison has taken no responsibility to determine the level of installed capacity.

ORA goes on to argue that if we were to decide to disallow payments only associated with project more than 20% overinstalled, the disallowance would be $2.2 million. For projects 25% or more overinstalled, the overpayments would be $2.1 million. For projects more than 30% overinstalled, the overpayments would be $1.5 million. At some point, in ORA's opinion, the Commission must agree that projects which are overinstalled have breached the terms of their contract and should have obtained a contract modification.

ORA does not accept that nameplate capacity under an ISO4 contract should be construed as nameplate rating less auxiliary load. However, it asserts, even if one chooses to net auxiliary load from the installed nameplate rating, some of Edison's QF projects would still be overinstalled. The auxiliary load for each project is contained in Exhibit 98-32. After subtracting auxiliary load from the manufacturer's nameplate, MP I is still overinstalled by 28%, Beowawe by 17%, Vulcan/BN Geothermal by 7%, Imperial Resource by 6%, and MP 2 by 6%.

ORA's proposal that this Commission consider a standard of 10% overinstallation, or 20%, or 30%, depending on how we view the evidence, will not be adopted. Our analysis of the evidence is that given auxiliary load, reactive power needs, and line losses, which must be factored into any discussion of the capacity a QF has contracted to deliver, none of the QF facilities which we have reviewed are overinstalled. Because of the nature of electric generation, it was expected in the QF contracts that are the subject of this proceeding, that fluctuations over and under nameplate capacity would occur.

Mr. Quinley, a principal representative of the Commission staff at the 1983 negotiating conference that preceded approval of ISO4 testified that nothing considered in the negotiating conference or in the power purchase agreement expressly limited the kWh deliveries under Energy Payment Options 1 and 2 or Capacity Payment Option A which are eligible for forecasted energy or

forecasted as-available capacity payments. There was an underlying assumption in those proceedings that all kWh would be paid for at forecasted energy and forecasted as-available capacity prices if that option was selected by the QF. In his opinion, ORA's statement that any QF with an ISO4 contract that was delivering energy or as-available capacity at forecasted prices consistently or significantly in excess of its contract nameplate is being overpaid is inconsistent with the understandings and agreements reached at the 1983 negotiating conference and with the ISO4 contract terms which obligated Edison to pay the forecasted prices specified in the contract.

Finally, it is appropriate to recall our commitment to the industry.

> "We thought it was well understood that prices paid QFs under standard offers approved or mandated by us were per se reasonable for ratemaking purposes. That is one of the hallmarks of the standard offer. It would be inconsistent and unfair for us to approve the use of a standard offer and later question the reasonableness of the prices. While the world may not always be fair, in our regulatory realm this Commission would never subsequently disallow costs necessarily incurred to pay QFs under standard offer contracts which we expressly found reasonable at the outset." (12 CPUC2d 604, 632.)

The Vulcan, Del Ranch, Elmore, and Leathers Projects

Vulcan, Del Ranch, Elmore, and Leathers projects (the Partnerships) sell electric power from geothermal power production facilities to Edison under Commission-approved ISO4 contracts. On May 1, 1996, Edison entered into a settlement agreement with the Partnerships to resolve long-standing, complex, and contentious litigation between them (the Vulcan lawsuit). The principal issue in the Vulcan lawsuit was whether Edison was required to pay ISO4 forecast rates, rather than short-run avoided costs, for energy deliveries above the nameplate ratings specified in the parties' ISO4 contracts.

On December 16, 1997, the Commission issued D.97-12-067, approving Edison's application for approval of specified provisions of the May 1, 1996 settlement agreement, as amended (the Settlement Agreement). The Commission made its approval of the settlement subject to the terms of a stipulation between Edison and ORA which transferred the issue of cost recovery of payments made pursuant to the Settlement Agreement to Edison's 1992 ECAC where an issue for consideration is the reasonableness of making ISO4 forecast energy payments for the Partnerships' energy deliveries above the contract nameplate ratings.

ORA contends the Commission should disallow payments of forecast energy and as-available capacity prices for deliveries above the contract nameplate rating by QFs that installed more capacity than their contract nameplate capacity and consistently deliver energy or as-available capacity in excess of the contract nameplate rating. ORA contends Edison should pay only short-run avoided costs for such deliveries.

SUMMARY COMPARISON OF INSTALLED CAPACITY AND CONTRACT NAMEPLATE CAPACITY (MW)

QF	Gen. KVA Rating	Power Factor	Gen. Name-plate Rating	Aux. Load	Trans. Losses	Eff. Net Rating	Cont. Name-plate	Over/(Under)	
								MW	%
Vulcan	46.729	.85	39.72	3.5	1.0	35.22	34.0	1.22	3.6
Del Ranch	42.120	.85	35.802	4.3	1.0	30.502	38.0	(7.50)	(19.7)
Elmore	41.120	.85	35.802	4.2	1.0	30.602	38.0	(7.40)	(19.5)
Leathers	42.120	.85	35.802	3.8	1.0	31.002	38.0	(7.00)	(18.4)

The manufacturers' nameplate ratings of the turbine generators installed by Del Ranch, Elmore, and Leathers are below their respective contract nameplate ratings. As we have discussed above, payments for energy and as-avaialable capacity at forecast rates to a QF which did not install in excess of its contract nameplate, but nevetheless delivers above the nameplate capacity, are reasonable. Therefore, there is no basis for disallowing Edison's payments to Del Ranch, Elmore, and Leathers because these projects are not overinstalled. Moreover, as a result of the settlement of the Vulcan lawsuit, Edison's total payments to these QFs during the First Period are substantially less than the payments Edison would have made if these projects were paid the full forecast rate for energy deliveries above their respective contract nameplate ratings.

ORA is recommending the full amount of the Vulcan QFs' share of the Settlement be disallowed for ratepayer recovery. ORA argue that the settlement payments are all attributable to deliveries in excess of nameplate rating, on a monthly average basis. The primary support to Vulcan's position was Edison's general practice of paying contract prices for all deliveries from QFs. Vulcan was 17% overinstalled, in ORA's opinion. If Edison's practice is found to be unreasonable, ORA asserts the settlement payments must be found attributable to that practice and therefore disallowed.

We see no reason to differentiate the settlement payments to the Vulcan QF from our general analysis of payments over nameplate. The Vulcan QF was not deliberately overinstalled. And when one considers power factor, auxiliary load, and line loss it is obvious that none of the four QFs' in the settlement were overinstalled to a degree warranting disallowance.

It is interesting to note that Edison 's original payments to these four QFs were exactly as ORA is proposing here. That is, Edison paid short-run avoided costs for energy deliveries above the nameplate ratings specified in the QFs' ISO4

contracts. The difference between the payments made and the payments Edison would have made had the project been paid the forecast price for all deliveries, plus interest, was over $11.2 million. Edison was sued for that amount, settled for less (the settlement amount being confidential), and had the settlement approved by the Commission. Why Edison originally chose to pay the Vulcan QFs differently from all its other QF projects has not been shown. But the record does show that had payments been based on nameplate ratings in the QF contracts there would have been substantial litigation.

Edison's Requested Policy Changes

Edison has presented testimony discussing the policy issues invoked by the Commission's review of utility QF contract administration. Edison proposes that the Commission establish a clear and objective standard of review delineating imprudent QF contract administration. In addition, Edison requests that the Commission address the issue of liability for imprudent QF contract administration by setting limitations on utility exposure for administration of contracts they were ordered to sign, and for which no compensation has been received. Edison asserts that the arguments put forth by ORA in this proceeding demonstrate the need for a concrete set of standards. If implemented, such standards would eliminate the excessive consumption of Commission resources in future reasonableness review proceedings related to QF matters based on ORA's improper second-guessing of contract administration decisions made more than a decade ago. All other parties urge that we deny Edison 's request.

On June 2, 1997, Edison filed a petition for an order initiating an investigation and an order initiating rulemaking to establish new guidelines for the review of QF contract administration by the Edison and the other utilities. Edison has also proposed that QF contract administration be transferred to another entity such as the California Energy Commission, or even auctioned off

to the lowest bidder. In addition, Edison seeks to limit potential disllowances relating to improper QF contract administration, and to preclude all QF claims, however deserving, for punitive damages under existing provisions of the Public Utilities Code. By order dated June 13, 1997, Edison's petition was treated as a motion filed in the present ECAC application. Edison was directed to identify the Commission decisions which it sought to modify. Edison did not identify all such decisions, claiming that past commission decisions do not directly address or provide adequate guidance on the issues raised by its motion.

By ruling dated September 22, 1997, the Administrative Law Judge scheduled certain hearings in this ECAC proceeding as follows:

> A92-05-047 – The only issues remaining are the QF issues of truncation and energy at forecast rates (energy above nameplate).

No issues regarding modification of Commission policy were set forth in the ALJ's statement of issues and none will be considered herein. All Edison testimony and argument on issues other than truncation and energy above nameplate are stricken.

Proposed Decision

This decision was issued as a Proposed Decision (PD) to which the parties responded. The California Cogeneration Council and Edison support the PD, while ORA opposes. The arguments made in opposition merely restate arguments made during the hearing and in briefs. They need not be considered.

Findings of Fact

1. The Commission's review of utility standard offer contracts and decisions related to administration of those contracts should be based on the policy, regulatory, and economic environment that existed at the time the decisions were made.

2. In the early 1980s, the Commission approved forecasts for energy and capacity that vastly exceed the current market price.

3. The disparity that developed between QF standard offer contract prices and market prices raised the potential for large disallowances based upon variances in contract interpretation that at the early stages of contract administration would not have been perceived as having a significant cost impact.

4. Review of Edison's QF contract administration by the Commission has been delayed, and this increases the value of potential disallowances.

5. The economic and regulatory environments regarding QFs have changed significantly since the Commission approved standard offer contracts in the early 1980s.

6. In implementing federal and state energy policies, the Commission directed utilities to assist actively in the development of QF resources.

7. The Commission required utilities to offer full avoided cost pricing for all QF contracts.

8. Utility efforts to reduce avoided cost payments were rejected by the Commission.

9. Edison was required to negotiate with QFs in good faith and was penalized for bargaining too hard with QFs.

10. Utilities were required by the Commission to sign standard offer contracts with QFs.

11. The Commission required the utilities to develop and offer standard offer contracts to promote development of the QF industry and to remove the risk the utilities faced of proving the reasonableness of their contracts with QFs.

12. Long delays in the resolution of pending ECAC applications and subsequent changes in the economic and regulatory environment have created an untenable situation for Edison.

13. The capacity factor of an electrical generator is measured by the amount of energy delivered during a specified period of time.

14. Under firm capacity standard offer contracts, a QF is paid for firm capacity only up to its contract capacity level. Energy delivered above the QF's contract capacity is excluded or truncated in the firm capacity payment calculation.

15. In regard to Edison, ORA recommends truncating energy deliveries for in-service territory QFs on a 15-minute basis and for out-of-service territory on a 60-minute basis.

16. Edison's firm capacity standard offer contracts and the firm capacity standard offer contracts of PG&E and SDG&E do not specify the interval for measuring energy deliveries for purposes of calculating firm capacity payments to QFs.

17. The only firm capacity standard offer contract that specifies an interval for measuring energy deliveries for firm capacity payment purposes is the PP&L standard offer contract which specifies a monthly interval.

18. Edison's practice of using a monthly truncation interval is consistent with other terms of the Edison firm capacity SO2 and ISO4 contracts approved by the Commission.

19. The "rate of delivery" and "limited by the level of contract capacity" provisions of the SO2 and ISO4 contracts were considered by Edison in 1983. Edison reasonably determined the intent of those provisions was to limit the monthly average delivery rates from QF projects, and not the 15-minute or hourly delivery rates.

20. The "rate of delivery" and "limited by level of contract capacity" provisions can reasonably be interpreted differently than being enforceable solely on a 15-minute or 60-minute basis. There is no contract language that mandates a particular interpretation.

21. Edison's monthly truncation is consistent with the 1.0 limitation in the period performance factor formula and does not render that provision meaningless.

22. Edison's monthly truncation practice complies with the limited guidance the Commission gave utilities in early decisions on QF contracts.

23. ORA failed to consider all payment terms of the PG&E firm capacity contract.

24. If all contract payment terms of the PG&E firm capacity payment contract, including the 30-minute truncation interval adopted by PG&E, are compared to the Edison firm capacity contract, including a monthly truncation interval, capacity payments to QFs would be lower under the Edison contract.

25. Edison's administrative practice limits capacity payments during a month to no more than the contract capacity.

26. Edison's capacity demonstration program ensures that firm capacity QFs deliver reliable firm capacity.

27. Edison measures the performance of its own generating units on a monthly basis.

28. There are differences in the standard offer contracts approved by the Commission for Edison, PG&E, and SDG&E.

29. The Commission authorized PP&L to use a monthly truncation for its long-term standard offer contracts.

30. Edison's firm capacity QFs meet the Commission's performance requirements in the aggregate.

31. Representatives of the QF industry and the Commission staff knew Edison used a monthly truncation interval in the early 1980s.

32. The ISO4 contract allows the QF to specify in the project summary the nameplate rating of the project in kilowatts.

33. The nameplate rating specified by the QF is not used in any other term of the ISO4 contract and is not a defined term.

34. The QF is required to make deliveries under the ISO4 contract at the point of interconnection with the utility.

35. Three operating options available to the QF require the project to dedicate the entire generator output to Edison or the portion of its output exceeding its own electrical needs.

36. There is no provision in Edison's ISO4 contract limiting the obligation to purchase energy or as-available capacity to the contract nameplate capacity designated by the QF.

37. The forecast prices for energy and as-available capacity were the expected avoided cost when the ISO4 contracts were approved.

38. The Commission guidelines for QF contract adminstration specify the conditions under which a project would be considered a new project.

39. No evidence is presented in this record that would indicate any project for which ORA seeks a disallowance is an essentially new project.

40. Commission decisions have long recognized that the nameplate rating of a generating unit is not an absolute limit on its energy delivery capability.

41. Edison presented project-specific information which demonstrates that deliveries from allegedly "over-installed" projects were reasonable and within the reasonable expectations of the parties when the contracts were executed.

42. Edison's project-specific testimony demonstrates that energy deliveries exceeding nameplate ranging from 0.01% to 17.68% were reasonable.

43. Edison's project-specific testimony demonstrates that installed capacity exceeding nameplate, after consideration of auxiliary load (station use) and transmission losses, ranging from negative 1% to 28% over contract nameplate was reasonable.

44. The commercial operating realities of the QF project development process must be considered to determine whether the amount of capacity installed by the QF is reasonable.

45. The nameplate rating does not fully describe the output potential of a QF's generating facility.

46. Edison's payment of forecast rates for energy above the contract nameplate ratings of the Vulcan, Del Ranch, Elmore, and Leathers contracts (collectively Vulcan contracts) is reasonable.

47. Edison's settlement with the Vulcan projects agreeing to pay substantially the forecasts rate for energy deliveries capped at an agreed-to level above the contract nameplate is reasonable.

48. The Commission approved a settlement between Edison and the Vulcan projects in D.97-12-067.

49. The amount of capacity Vulcan installed above its contract nameplate was reasonable.

50. The Del Ranch, Elmore, and Leathers projects are not over-installed and therefore deliveries from these projects are reasonable.

51. The amount of capacity installed by the Mammoth Pacific 1 and Mammoth Pacific 2 projects is reasonable given the seasonal variations in air temperature and the projects' station use.

52. It is reasonable to consider the station use, transmission losses, and other considerations the QF project has for the amount of capacity actually installed.

53. In the context of other standard offer contracts (Uniform Standard Offer 1 and Final Standard Offer 4), the Commission has approved definitions of "nameplate" which exclude station use.

54. The Federal Energy Regulatory Commission (FERC) has defined the output of a QF project to exclude station use.

55. The standard offer contracts are contracts for the sale of capacity and energy at the point of interconnection with the utility and therefore it is reasonable to exclude transmission losses in the calculation of the amount of capacity the QF installed to meet its commitments under the ISO4 contract.

Conclusions of Law

1. The Commission's standard of review of the prudence of utility actions is based on what was known or should have been known at the time the utility made its decisions.

2. Under the Commission's standard of review, utility decisions are evaluated based on policy, regulatory and economic conditions in which those decisions were made.

3. The Commission ordered its jurisdictional utilities, including Edison, to offer standard offer contracts to QFs.

4. The Commission reviewed and approved the language of Edison's standard offer contracts, including the SO2 and ISO4 contracts, and concluded that payments properly made pursuant to the contracts were per se reasonable.

5. The goal of the Public Utility Regulatory Policies Act of 1978 (PURPA) 16 U.S.D. § 796 et seq., is to encourage the development of alternative and renewable generation of electricity in the United States.

6. In March 1980, the Commission in Resolution E-1872 "adopted a policy to take all available steps to encourage and support the development of small power production and cogeneration facilities in California."

7. Edison was penalized by approximately $8 million for bargaining too hard with QFs.

8. There is no provision of Edison's SO2 or ISO4 firm capacity contracts that requires Edison to use a 15-minute, 30-minute, or one-hour truncation interval.

9. The other terms of the capacity payment formula in Edison's firm capacity SO2 and ISO4 contracts use a month to measure and pay for performance.

10. The "rate of delivery" provision of the SO2 contract does not limit deliveries for purpose of measuring capacity on a 15-minute or 60-minute basis.

11. The "limited by the level of Contract Capacity" provision of the ISO4 contract does not limit deliveries for purpose of measuring capacity on a 15-minute or 60-minute basis.

12. The Commission explicitly authorized PP&L to use a monthly truncation interval in D.83-11-047.

13. On January 9, 1984, PP&L submitted its compliance filing in response to D.83-11-047 which tendered its firm capacity standard offer contracts that included a monthly truncation interval for measuring and paying for firm capacity.

14. The Commission endorsed the use of standard offer contracts that obligate the QF to deliver the energy available for sale and the utility to purchase energy delivered by the QF to the point of interconnection for the term of the contract.

15. The Edison ISO4 contract does not expressly limit or restrict the QF's ability to deliver energy to the interconnection point to the nameplate rating designated by the QF in its contract.

16. Edison's monthly truncation practice is reasonable.

17. Edison's practice of paying contract forecast prices for energy and as-available capacity under the ISO4 contract is reasonable based on the facts presented in this record.

18. Contract amendments for projects exceeding contract nameplate are not required unless the project is "essentially new."

19. Edison is entitled to recover payments made pursuant to its settlement agreement with the Vulcan projects dated May 16, 1996.

20. The testimony and argument proferred by Edison in regard to Edison's policy changes are stricken.

21. The review of the Coso projects has been deferred because of a civil proceeding. We will close this docket at this time, subject to a petition to reopen or modify this decision should that become necessary in regard to the Coso projects.

O R D E R

IT IS ORDERED that:

1. Southern California Edison Company's operations concerning the two issues which are the subject of this decision during the period from April 1, 1991 through March 31, 1992 are found reasonable.

2. This proceeding is closed.

This order is effective today.

Dated September 3, 1998, at San Francisco, California.

RICHARD A. BILAS
President
P. GREGORY CONLON
JESSIE J. KNIGHT, JR.
HENRY M. DUQUE
JOSIAH L. NEEPER
Commissioners