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Decision 84 09 120 SEP 19 1984

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of SOUTHERN CALIFORNIA EDISON COMPANY for authority to modify its Energy Cost Adjustment Clause to decrease its Energy Cost Adjustment Billing Factors and to increase its Annual Energy Rate in accordance with Commission Decision No. 82-12-105; to maintain its presently effective Catalina Energy Cost Balance Adjustment Billing Factor; to increase the Steel Surcharge Adjustment Billing Factor; to increase the Electric Revenue Adjustment Billing Factor; to make certain changes to its Offset Tariffs and Procedures which may at some future date result in Rate Level changes; and to review the reasonableness of Edison's operations in 1982 and certain reasonableness issues related to Commission Decision No. 82-01-053.	Application 83-03-36 (Filed March 10, 1983)
And Related Matter.	Application 82-03-04 (Filed March 1, 1982)

(See Appendix A for appearances.)

I N D E X

O P I N I O N

I. Introduction

Application (A.) 83-03-36 is Southern California Edison Company's (Edison) Energy Cost Adjustment Clause (ECAC) annual reasonableness review proceeding. By an interim decision (Decision (D.) 83-08-56) the ECAC billing factors were revised and the Annual Energy Rate (AER) determined for the test period. In this decision we review the reasonableness of Edison's 1982 fuel costs and resolve certain matters held over from earlier proceedings.

This matter was submitted following 14 days of public hearing. Opening briefs were filed by Edison, the Commission staff (staff), Toward Utility Rate Normalization (TURN), and the Independent Energy Producers Association (IEP) - State of California, Department of General Services and State Solid Waste Management Board (State Agencies). Reply briefs were filed by Edison, staff, and TURN.

II. Issues Presented

By D.83-01-53 in Edison's previous annual reasonableness review proceeding, two issues were deferred to this proceeding. By D.83-05-36 rehearing of D.83-01-53 was granted, limited to the two issues deferred by D.83-01-53. These issues are:

1. The reasonableness of Edison's increased coal costs resulting from the renegotiation of its contract with Utah International Corp., and
2. The reasonableness of the cost of power purchased to replace power lost because of the diesel generator fire at San Onofre Nuclear Generating Station (SONGS) Unit 1.

In D.83-05-36 we provided that the rehearing would be consolidated with this proceeding.

Several other issues emerged during these hearings. These include issues relating to the implementation and interpretation of the coal plant incentive procedure and guidelines for the reasonableness review of payments made to alternative energy producers.

III. Summary

In this decision we examine in detail the facts and circumstances surrounding the renegotiation of the contract with Utah International Corp. to supply coal for the Four Corners Coal plant and find the price paid under the renegotiated contract reasonable during the review period. Accordingly, Edison is allowed to recover costs incurred under the renegotiated agreement for the review period. Edison bears the burden of proving reasonableness for future review periods.

We also examine in detail the facts and circumstances surrounding the diesel generator fire at SONGS 1 and the resulting replacement fuel costs. We find that the resulting replacement fuel costs of about $13.1 million are not recoverable from ratepayers.

With regard to the coal plant incentive procedure, Edison is allowed to recalculate the result for 1981 to reflect a revised gross heat rate standard. Edison is also allowed to make certain adjustments to reflect adopted qualitative modifiers.

Guidelines for purchases from alternate energy producers are not adopted.

IV. Issues

A. The Coal Contract

1. Background

Edison owns a 48% interest in Units 4 and 5 of the Four Corners Generating Station (Four Corners). The other five participants in these 800 MW units are Arizona Public Service (APS), Public Service of New Mexico, the Salt River Project, Tuscon Gas and Electric, and El Paso Electric.

APS has been designated by the participants as operating agent for Units 4 and 5 and administers the day-to-day operations of these units in accordance with the general directions and guidelines provided by the participants' joint committees. Utah International Inc. (Utah) owns and operates the Navajo Mine located adjacent to Four Corners. This surface mine sells coal solely to Four Corners under long-term coal contracts, with deliveries averaging 6.7 million tons per year since 1971 when Units 4 and 5 began full-power operation. The coal contracts were negotiated in the early 1960s with Fuel Agreement No. 2 (Agreement) being executed in 1966. This Agreement has a term of 35 years and reserves 4,000 trillion Btu or 222 million tons of coal for Units 4 and 5. The mine and power plant are located on reservation land leased from the Navajo Indian Nation. The mine leasehold consists of a narrow strip of land ranging from one mile to two miles in width and 20 miles in length, encompassing several coal reserve areas which are developed as necessary to meet plant quantity and quality requirements.

The coal deposits in this narrow strip vary significantly in coal quality and number of seams. Area I, the northern end of this strip where mining started in 1963, is basically a single seam, high-quality deposit. Progressing to the south, the coal quality decreases while the number of seams increases. In order to maintain an acceptable coal quality over the remainder of the Agreement, the high-quality coal from Areas I and II must be blended with the lower-quality coal in Area III. Utah, therefore, opened the southern portion of the lease, Area III, during 1979-1983 at a capital cost of approximately $28 million. The coal burned at Four Corners has an ash content of approximately 23%. The ash collected at Units 4 and 5 amounts to approximately 1.4 million tons per year and is disposed of as landfill material in the mine by Utah under an Ash Haul Agreement. New air emission regulations passed by the State of New

Mexico in 1978 and 1979 required the installation of baghouses and scrubbers at Units 4 and 5. The baghouses were put in service in 1982 and the scrubbers will start operation in 1984. Utah agreed to relocate a portion of its coal stock pile to provide room for this new equipment at Four Corners. Utah, under the new Ash Haul Agreement, also agreed to dispose of the dust collected by the baghouses and the sludge generated by scrubbers, which will add approximately 100,000 tons per year to the previous disposal requirements.

The parties to Four Corners Agreement anticipated the need to accommodate unforeseen economic conditions and provided for a price reopener in Section 7.1.b of the Agreement. This section obligates the parties to agree on price revisions if, through forces not within the reasonable control of the parties, there "occur extreme or radical changes from the economic factors and conditions which existed at the time of negotiation of this agreement." This contract provision was considered by both buyers and seller to be a necessary addition to a long-term coal supply agreement which was intended to encompass operations extending over a period of 35 years, and was executed in 1966, several years prior to the commencement of the operation of Units 4 and 5, which occurred in 1969 and 1970, respectively. The parties also anticipated the possibility of disagreement as to the occurrence of changes within the meaning of Section 7.1.b, as well as disagreement over the methods of revising contract provisions in response to changes, and so provided, in Section 7.1.c. of the Agreement, that "the matters at issue shall be submitted to and determined by binding arbitration" if the parties cannot resolve them in good-faith negotiation. Two issues can therefore be arbitrated: (1) the issue of the occurrence of extreme economic change resulting in a party suffering material injury or loss; and (2) the issue of the amount and method of the price relief.

In December 1978, Utah claimed that the extreme or radical changes of the type referred to in Section 7.1.b of the Agreement had occurred and submitted a hardship claim which alleged, in part, that, due to inflation and mining-related regulatory changes, the capital investment associated with developing more distant mine areas (Area III) exceeded the cost anticipated in 1966 (when the Agreement was negotiated) and that these extreme economic changes would result in a negative rate of return for Utah. Utah submitted a hardship claim to the coordinating committee of the Four Corners participants and proposed the following changes to the Agreement:

> Price Increase: 22.2¢/MMBtu price increase, resulting in a 77% increase over the existing (1978) price level of 28.7¢/MMBtu. Escalate the nonescalating component of the base price. Further, as yet unquantified adjustments to reflect Utah's investment increases and regulation induced productivity decreases in the future.
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> Timing: Price increase to be effective immediately.
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> Escalation: Implement the use of current monthly indices instead of one-year lagging indices to avoid the continuing underrecovery inherent in the present system in times of increasing inflation, and escalate the full price.
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> Adjust the labor component for future regulation-induced productivity losses.
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> Minimum Purchase: Institute a take-or-pay provision if coal deliveries fall below 117 trillion Btu yearly coal deliveries (equivalent to 6.5 million tons per year). Payment to be at full coal price to compensate Utah for the severe impact on its operating results if the plant falls below this historical average delivery level.
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> Price Reopener: No change from existing contract.
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> Regulatory and Royalty Costs: Provide for reimbursement of all new regulatory costs such as mine, health, and safety regulations besides

current payment of reclamation costs and reimbursement of changes in royalties paid to the Navajo Indian Nation.

Other Issues: Resolve the other pending issues such as scrubber sludge disposal, use of a portion of Utah's stockpile area for scrubber and baghouse construction, and renegotiation of a new maximum coal sulfur limit.

The Four Corners participants authorized APS to undertake negotiations with Utah, subject to keeping participants apprised of the status of negotiations and subject to approval by the participants of the results of these negotiations.

APS responded, in April 1979, to Utah's proposal and stated that it was not convinced of the validity of the hardship claim. APS advised Utah that, to better understand Utah's request, it planned to thoroughly examine and test Utah's right to reopen the contract under Section 7.1.b and to renegotiate the methods of escalation of the coal price. APS requested Utah's cooperation in examining the reasonableness of the mining operation and in analyzing the financial records pertaining to the operation of the Navajo Mine. APS also requested Utah's position concerning the use of arbitration to settle Utah's hardship claim and proposed level of price adjustment.

In May 1979, Utah agreed to fully cooperate with APS's investigations so that APS could develop an informed judgment on its hardship claim. Utah strongly opposed the use of arbitration to settle the hardship claim and price adjustment. Utah argued that arbitration was not available under the contract until an informed disagreement on the issues existed. In addition, Utah pointed out that arbitration would not resolve the other contractual issues which were pending, such as matters relating to ash disposal, expansion of the Four Corners project onto Utah's leasehold, and sulfur specifications. In view of the importance of the hardship claim and price adjustment to Utah's mine operation, the arbitration procedure

would be treated by Utah, and probably the participants, as if it were litigation and would, therefore, be a lengthy adversarial undertaking. Utah also pointed out that, if the matter were not settled by good-faith negotiations, Utah would consider other remedies, such as litigation under the Uniform Commercial Code for failure of a presupposed condition, i.e. Units 4 and 5 consuming substantially less coal than expected.

During the remainder of 1979, APS acting for the participants, confirmed the reasonableness and necessity of Utah's hardship claim. It was found that the financial data on which the hardship claim was based was reasonable, and that the current mine opertions and mine planning for future operations were conducted in a reasonable and efficient manner, including the capital expenditures associated with the required mine relocation into Area III. A review of rates of return reported by trade magazines showed that average five-year rates of return achieved by coal mining companies ranged between 15% and 20%.

After a year of evaluations, and as the result of these discussions with APS, Utah submitted a revised proposal to the coordinating committee of the participants in January of 1980. Utah reiterated its hardship claim and pointed out again that the stable economic environment existing prior to 1966, with inflation rates of 1.3%, had changed to double-digit inflation of currently 13.5% and that regulatory requirements which could not have been foreseen had caused further losses in productivity and increases in costs, Utah pointed out that its rate of return would become negative if no increases in price were granted. Utah therefore requested the following changes to the existing Agreement:

> Price Increase: A 16¢/M^2Btu, fully escalatable one-step price increase which would have resulted in a 53% increase over the base price of 30¢/M^2Btu existing in June 1979.

Timing: Price increase effective April 1, 1980.

Escalation: A revision to a current, monthly index method to remove the underrecovery inherent in the present lagging index method using yearly averages.

Minimum Purchase: a shortfall to exist if Units 4 and 5 of Four Corners burn less than 1.2 M^2T per quarter. Shortfall payable at 85% of the then-existing coal price.

Price Reopener: A five-year price reopener based on comparisons of rates of return expected for new mining ventures.

Regulatory and Royalty Costs: full reimbursement for costs actually incurred since these costs are not within the control of Utah.

Other Issues: A reduction of 46 million tons in the maximum amount of fuel reserved for the participants under the current Agreement to reflect the historical and anticipated lower deliveries. Renegotiate the canceled Ash Haul Agreement for Units 4 and 5, and resolve scrubber- and baghouse-related problems.

In response to this proposal, the participants formed a technical committee, with all participants being represented, to thoroughly review Utah's proposal and evaluate the financial and operational data and financial model on which this proposal was based.

Over several months of review and analysis, the members of the technical committee again confirmed the validity of Utah's hardship claim and recommended to pursue a negotiated settlement rather than arbitrating the price relief. Based on the technical committee evaluation, APS, on behalf of the participants, informed Utah in June of 1980 that its January 1980 proposal was unacceptable without significant changes and outlined a counterproposal as follows:

Price Increase: A two-step price increase totaling 13¢/M^2Btu. The price increase offered was structured to provide a 15% rate of return on book investment. Utah had proposed a 15% rate of

return on fair investment calculated as the average of original and replacement cost, both reduced by depreciation.

Timing: Initially a 5¢/MMBtu increase effective when the contract amendments were executed, which was anticipated to be in September 1980, and a second step increase of approximately 8¢/MMBtu to be granted (calculated using a financial model calibrated with actual data) at the time when the move into Area III was complete. This second step increase was anticipated to occur in approximately 1983-1984.

Escalation: The participants accepted Utah's proposed index changes, but insisted on adding a portion of the new price increase to the existing nonescalatable price component.

Minimum Purchase: The participants recognized that reduced deliveries had a significant impact on Utah's revenues and agreed to reduce Utah's exposure in this area. The participants proposed a considerable reduction in potential payments under the minimum purchase provision which Utah had proposed. The participants proposed a trigger tonnage of 6 million tons per year for Units 1 through 5 with payments to be made at 70% of the full price level, since Utah would not incur variable costs for tons not delivered. Any tons paid for at the reduced price level, but not delivered, could be bought back in future years at a 30% price level. Further, the minimum purchase provision would be reduced by force majeure events.

Price Reopener: The five-year price reopener would be triggered by deviations from rates of return experienced by existing mine operations, rather than by rates of return used in forming new mine ventures as proposed by Utah.

Regulatory and Royalty costs: The participants agreed to a passthrough of any new costs associated with mine regulations or royalties.

Other Issues: The participants rejected any reduction in dedicated coal reserves. In

addition, the participants insisted on an agreement that Utah would renegotiate expeditiously the ash agreement Utah canceled effective November 30, 1980, and cooperate in resolving the scrubber- and baghouse-related issues.

In mid-July 1980, Utah responded to APS regarding the participants' counterproposal by expressing its dismay at receiving a proposal with so little resemblence to Utah's January 1980 proposal. Utah believed that its January proposal, which represented the outcome of a year-long negotiation effort, was close to an acceptable settlement between the parties. Utah rejected the participants' pricing proposal because, among other reasons, the 15% rate of return on book value was considered by it to be insufficient to compensate the mine operator for the inherent risk of a complex and large operation faced with inflationary times and in an environment of increasing regulatory impact. Utah rejected the proposed trigger tonnage for the minimum purchase provision, stressing that the impact of reduced deliveries on its profit level was devastating. Utah indicated that such a low-trigger tonnage would be unacceptable unless the coal price was increased significantly in compensation. Utah claimed that the participant's proposed minimum purchase level would render the provision almost meaningless, especially since it would be potentially further reduced by loosely defined force majeure events. Utah also rejected the proposed timing of the price increase and insisted on reverting to the April 1, 1980 effective date which it had thought had been agreed to by all parties.

In the beginning of August, Utah approached all of the participants to directly express its disappointment that its January 1980 proposal had been rejected. Utah proposed that the participants' counterproposal be adjusted to reflect the delays which had occurred in the execution of a contract amendment granting the

relief they had sought for nearly two years. Utah stressed that it was in the participants' best interest to conclude the negotiations on price relief as soon as possible, since the Ash Disposal Agreement needed to be negotiated in advance of its expiration date of November 30, 1980.

In mid-September 1980, APS, on behalf of the participants, submitted the draft of a contract amendment to Utah which was consistent with the June 1980 principles described above, except that the price increase of 13¢/MMBtu was proposed to be implemented in three steps which would be tailored to the timing of the investment in Area III.

Utah concluded that the major differences existing between its position and the participants' offer could not be timely resolved in the manner negotiations had theretofore been undertaken. Utah's chairman wrote a letter to each of the participants, requesting support in Utah's effort to return economic equity to its mine operations. Utah argued that the participants' counterproposal could not be accepted because it:

> Provided an inadequate rate of return.
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> Failed to protect the purchasing power of Utah's investment and profits.
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> Required Utah to suffer a $25 million negative cash flow over the next two to four years.
>
> Failed to recognize the value of Utah's coal and water rights.
>
> Broadened Utah's financial risk if plant performance resulted in low deliveries in the future.

In November 1980, Utah and the participants convened an officer-level meeting and agreed on a compromise settlement. The compromise included the following elements:

> Price Increase: a price increase of 15¢/MMBtu.

Timing: The increase to be implemented in five steps, paced by the investment level in Area III, rather than having the total increase effective in April 1980, as proposed by Utah. The first step of 5¢/MMBtu to be effective in January 1981, with the fifth step expected to be effective three to four years later.

Escalation: The portion of the price increase representing depreciation to be added to the nonescalatable base price component. Utah's January 1980 proposal regarding index revisions to be reflected monthly to eliminate underrecovery caused by lagging annual indices was adopted.

Minimum Purchase: The participants' proposal of June 1980 to be adopted, except for a slight increase in the trigger tonnage level and shortfall payment percentage.

Price Reopener: The participants' proposal that the price be reopened every five years in the event Utah's rate of return on book value were to deviate (up or down) significantly from rates of return expected by investors in similar enterprises was adopted.

Regulatory and Royalty Costs: New regulatory costs including effects of law changes and royalty payments to be passed through to the extent actually incurred by Utah.

Other Issues: Utah to continue to dispose the Units 4 and 5 ash while the terminated Ash Disposal Agreement was being renegotiated. Utah to remove the one-year termination clause and make the terms and extensions of the Ash Agreement consistent with Fuel Agreement No. 2. Utah to dispose of the additional 100,000 tons of baghouse and scrubber wastes, and to relocate a portion of its stockpile area to provide the land necessary for the construction of this new equipment. Utah to modify the Agreement to assure that the participants have the water supply necessary to operate the Units 4 and 5 scrubbers. A CPA firm designated by the participants be permitted audit rights in conjunction with a five-year price review.

The above provisions were incorporated in the Fourth Supplement to Agreement and became effective January 1, 1981.

2. Contentions of the Parties

Edison claims that the joint decision to negotiate contract adjustments rather than to arbitrate was reasonable. According to Edison, the participants considered at the outset whether or not to arbitrate Utah's claim. The decision was deferred pending the findings of an investigation by the participants, including their use of consultants to determine if extreme and radical changes in economic conditions had occurred as claimed by Utah and whether these changes necessitated price revisions under Section 7.1.b of the Agreement. The participants confirmed the validity of Utah's hardship claim. In particular, the participants concluded that:

> The stable economic environment of the mid-sixties, when the Agreement had been negotiated and executed, had been replaced in the seventies by an environment of two-digit inflation and proliferating regulations affecting the cost of mine operations. Inflation, as measured by the Consumer Price Index for the ten years prior to 1966, had averaged about 1.3%, while in the years following 1966 inflation had increased rapidly to the point where in 1979-1980 it averaged 13.5% per year. This rapid increase in inflation is shown by the consumer Price Index, the GNP Implicit Deflater, and the Construction Machinery and Equipment Index. This latter index illustrates that the equipment prices for surface mines, such as loaders and scrapers, increased even more than general inflation.
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> The regulatory environment for mining operations had changed significantly from that of the early 1960s by the imposition of new laws and regulations, such as the New Mexico Coal Surface Mining Act and the Federal Mine Health and Safety Act. These laws and regulations had increased costs and reduced mine productivity.

> The capital investment necessary to open required new mine areas or replace worn-out equipment had increased dramatically as the result of inflation which had exceeded past expectations. In particular, the cost of mining machinery and equipment rose at rates which exceeded the general inflation rate. The move into Area III was, in 1979, estimated to cost nearly $28 million, but it would have cost less than $12 million if deflated back to 1966. This cost would have increased to only $14 million by 1979 had the 1.3% inflation rate persisted.
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> The financial data on which Utah's hardship claim was based was valid: Utah's expected rate of return on this mine operation would be a negative 5% for the 1981 through 1985 time period absent pricing adjustment.
>
> The past and present mine operations and future mine plans have been, and are, reasonable and efficient, and projected capital expenditure forecasts for the required mine relocation were reasonable and necessary.
>
> The five-year average rate of return in the coal mining industry ranged from 15-20%.

According to Edison, if, after conducting this extensive investigation, the participants had found a valid basis of disagreement on this issue, arbitration would have been undertaken. However, in light of the above findings, the participants concluded that extreme or radical changes in economic conditions had occurred, and the necessity for considering price adjustments as provided for in the Agreement could not be successfully disputed. Arbitration on this issue was, therefore, not pursued.

Edison states that the participants also considered the value of arbitrating the second arbitrational issue, that is, the specific price adjustment warranted by the changed circumstances, and suggested such a course to Utah. Utah urged settlement of the issues through good-faith negotiations and threatened to forego arbitration

and litigate the issues based on the Four Corners participants' failure to respond to the hardship claim and the alleged failure of a basic condition upon which the Agreement was executed in 1966, i.e. the participants purchasing substantially less coal than originally projected.

According to Edison, the participants concluded that arbitration or litigation of the issues would be time-consuming and costly and not in their best interest or the interest of their ratepayers. At this point, the participants had concluded that Utah would be losing money by continuing planned operations in the absence of price relief. If an extensive arbitration or litigation process had been commenced, the participants would have been concerned about the reliability of coal supply and quality-control measures which Utah would exercise during the lengthy trial process. Furthermore, arbitration would have exposed the participants to a potentially unfavorable decision of the arbitration panel, diminished the participants' degree of control over the process of price adjustment, and left unresolved several issues of benefit to the participants which could not be considered within the limited scope of arbitration permitted under the contract. Edison and the other participants rejected the premise that arbitration is the only action that is defensible before utility regulatory agencies. Although it may be true that a resolution by relatively independent third-party arbitrators would be easier to defend before utility regulators, the participants concluded that their collective best judgment as to contract adjustments which would be in their best interests and the best interests of their customers, would be superior to that of an arbitration panel not permitted to consider factors beyond the specific issues of price adjustment. The participants therefore decided to negotiate a settlement of Utah's hardship claim and also to resolve, in the process, other areas of concern to the participants, which were:

Renegotiation of the Coal Ash Disposal Agreement which, in November 1979, had been terminated by Utah effective November 30, 1980.

The negotiation of a waste product disposal agreement for the new scrubbers and baghouse which had to be installed for environmental reasons on the units.

The relocation of a portion of Utah's coal-storage area to obtain room for the new scrubbers and baghouses.

Access to additional water supplies required for the operation of the new scrubbers.

In light of the above reasons, Edison believes that its decision, and that of the other five utility owners, to negotiate rather than to arbitrate the settlement of Utah's hardship claim and the other contractual areas was reasonable.

Edison states that its management was aware, throughout the two-year negotiation process, that the outcome would be subject to an extensive and thorough review by the California Public Utilities Commission and other concerned consumer interests. The five other utility owners of Four Corners were facing a similar prospect. Edison and the other participants were fully aware that the resultant coal price increases might be disallowed for ratemaking purposes if they were arrived at without proper justification.

According to Edison, the participants were also aware of the importance of the continuity and quality of the coal supply for Four Corners. Economical substitution of the present coal source is not feasible since Four Corners is a mine-mouth plant and has no rail links to other large mines. Utah could have a claim of nonperformance under the contract if the participants had failed to negotiate reasonable and equitable adjustments to the coal price in light of the existing and projected economic and regulatory circumstances as mandated by Section 7.1.b of the Agreement. The

prospect of continuing negative rates of return would likely have postponed the move in Area III since Utah would have been reluctant to invest further in a losing venture. The resultant poor coal quality and degraded mine reliability could have caused significant losses in power production and would have required costly and lengthy litigation with uncertain outcome to resolve.

Edison claims that it agreed to a reasonable settlement with regard to coal price and the other contract amendments. According to Edison, the key question in determining the magnitude and timing of the price increase was the rate of return for Utah's mining operation. A survey of the mining industry showed a considerable range, with 15 to 20% rate of return being representative. In addition, the methods used to calculate these rates of return varied from company to company. It is obvious that the numerical value of a rate of return is impacted by the methods used for investment base valuation, treatment of inflation relative to cost and revenue forecasts and the purchasing power of money, and the time periods considered for the rate of return calculation. Direct comparisons of rates of return are, therefore, difficult and need to be made with care.

Edison observes that the original Agreement does not explicitly address a rate of return level, but stipulates in Section 7, Pricing, that a reasonable and equitable price should be in effect. Utah requested, in its January 1980 proposal for the next five years, an average 17% rate of return on fair investment value (average of book value and replacement cost, less depreciation), which was equivalent to a 22% rate of return on book value, less depreciation. Utah was seeking compensation for the effect of inflation on fixed assets and stressed that, in order to achieve this, it was necessary to calculate investment level and depreciation based on current replacement cost, rather than original purchase

cost. Utah felt that it had compromised its position already by agreeing to a fair-value concept. The participants counterproposed a 15% rate of return on depreciated book value and argued that this lower rate was justified by the lower risk inherent in Utah's mine operation due to a secure market for its coal.

The participants ultimately agreed to a price which would produce an 18% rate of return on depreciated book value averaged over the next five years. This price is also equivalent to a 15% rate of return if book and fair value is averaged over the same time period. The result represents a compromise halfway between Utah's and the participants' proposal. It was considered by all participants to be a reasonable level of return when compared to industry norms viewed in light of the risk inherent in the Four Corners operation, which was undergoing significant change by moving into more distant mining areas and in light of the anticipated figure inflation level. The level of return implicit in the price adjustment agreed to does not establish a precedent (floor or ceiling) for future price reviews.

The original Agreement stipulates that the parties have to agree to reasonable and equitable escalation adjustments to the base price in case of a hardship claim under Section 7.1.b of the Agreement. Utah felt that such an adjustment would be achieved by a 16¢/M^2Btu increase above the 30¢/MMBtu price level of June 1979, in conjunction with full reimbursement for regulatory and royalty costs. Utah had based this level of increase on the assumption that it would become effective in total on April 1, 1980. The participants had proposed a three-step 13¢/M^2Btu increase (5¢ effective November 1980, 5¢ when Area III was 75% complete and 3¢ upon completion of Area III in 1983) to better represent the timing and investment level involved in Area III. Utah conceded to the timing of the price increase and accepted a five-step increase totaling 15.1¢/M^2Btu with the first step of 5.4¢ to become

effective January 1, 1981, and the other four steps of 2.4¢ granted whenever 25% of the Area III investment was completed. In light of the participants's finding of the reasonableness and necsssity of the capital investment in Area III, the shortcomings of the existing escalation methods, the need to resolve ash disposal and scrubber- and baghouse-related issues, and in light of the then-existing regulatory and economic environment, the agreed-to price level was considered to be reasonable by the participants of the Four Corners project and significantly below Utah's original request.

Edison admits that price comparisons are difficult and, in themselves, do not justify the absolute level of the coal price paid by a utility. But they still have value in demonstrating the reasonableness of prices if key parameters such as age of the investment, complexities of mine operation such as number of seams, Btu value and ash content of the coal, overburden ratios, and transportation differences are considered. Such a study was performed by Edison for large western mines and shows that the mine price resulting from the five-step price increase and the other price-related contractual provisions is reasonable after all steps have been implemented.

Edison states that a reduced level of coal sales to Four Corners was of major concern to Utah since its Navajo Mine is isolated from other markets and can sell coal only to Four Corners. Utah emphasized throughout the negotiations that its January 1980 offer was predicated upon the assumption that the risk of reduced coal sales levels would be removed by appropriate contract provisions. Utah proposed, in January 1980, a minimum purchase provision which required the participants to purchase 1.2 million of coal each quarter for Units 4 and 5. Any shortfall below that tonnage level would be payable at 86% of the coal price.

The participants confirmed that the majority of mine costs are fixed and that reduced deliveries constitute a significant, adverse impact on the financial results of a mine operation. The participants therefore offered, in June 1980, a minimum purchase provision triggered by an annual delivery level of six million tons (the historical minimum delivery level to all five units at Four Corners). Any shortfall would be payable at 70% of the price with a buyback of such tons in future years at the 30% price level. This trigger tonnage level would be reduced by force majeure events. Utah demonstrated, to the satisfaction of the participants, that its actual fixed cost level was higher than estimated by the participants. Utah conceded to setting the tonnage level on an annual basis for the whole station which considerably reduces the risk of shortfall payments by the participants. In return, the participants raised the trigger tonnage level to 6.3 million tons and the shortfall-ton price level to 76% with a commensurate price decrease in the buyback price.

For perspective, if this minimum purchase provision had been in force historically, shortfalls would have occurred three times in the time period 1971 through 1980, with the buyback provision recovering all payments under this provision in subsequent years. In light of these considerations, the participants were of the opinion that it was reasonable to include the minimum purchase provision.

The hardship provisions of Section 7.1.b were replaced by a five-year price reopener. The participants added the right to audit, by use of an independent CPA firm, Utah's operation records to determine the actual rate of return. Utah had initially suggested that this five-year price reopener be based on rates of return expected by <u>new</u> mine ventures. The participants agreed a five-year reopener provision to assure both parties involved in the Agreement

that an opportunity to earn a fair and reasonable rate of return will be provided over the remaining term of the Agreement. The participants believed that, in light of economic and regulatory uncertainties, it would have been imprudent to agree to a fixed-price level without the opportunity to make future adjustments, either up or down, to the coal price. The participants felt, based on the experience with the gross inequities provision of Section 7.1.b, that the new five-year price reopener would be a more reasonable mechanism to resolving similar issues in the future. However, the participants did not agree that rates of return for new mine ventures would be an appropriate standard and sought, instead, a lower standard related to existing mine operations.

In summary, Edison argues that the reasonableness of the Four Corners Coal Contract negotiations and resulting coal price has been conclusively demonstrated. Edison states:

> "The provision of Section 7.1.b of the Agreement were satisfied as a result of changed circumstances in accordance with the contract intent. The Participants were obligated to negotiate fair and equitable adjustments in good faith response.
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> "Edison and the other Participants achieved additional consideration in the form of a new ash disposal agreement and the land and water for the new scrubbers and baghouses.
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> "Edison and the other Participants acted reasonably in negotiating an adjustment to the contract price rather than arbitrate the issues.
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> "Edison and the other Participants drove a hard bargain with the coal supplier.
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> "Edison and the other participants negotiated a reasonable adjustment to the Four Corners Fuel Agreement No. 2, particularly in the areas of price relief, minimum purchase provision, and five year price reopener."

TURN observes that Edison's generating facilities at Four Corners - jointly owned with five other utilities - were built in the late 60s, virtually on top of coal reserves belonging to the predecessor of Utah. Obviously, they would not have been built there unless the utilities were sure that a suitable quantity of suitably priced coal were available for the life of the operation. The original agreement between the utilities and their supplier, dated September 1, 1966 and entitled, "Four Corners Fuel Agreement No. 2," must be presumed to embody that original understanding.

TURN states that in retrospect, the 1966 Agreement turned out to be favorable for the Edison customer. Generally, the buyer could take as little or as much coal as the power plants required and the price, though increasing over the years, continued to be lower than that charged at other western strip mines. However, one section (Section 7.1.b) of the contract provided that the escalation formulae that captured changes in the seller's taxes, labor material and supplies, electric power, and consumable equipment could be renegotiated if they proved to be unfair or inequitable due to changed "economic factors and conditions". Relying on this "re-opener" provision Edison, its co-owners, and Utah renegotiatd the Four Corners Agreement and executed a Fourth Supplement thereto, effective January 1, 1981. As a result Edison's customers paid approximately $.11 per Btu (=$4 million) more for coal in 1981 and about $.12 per Btu (=$5 million per year) more in 1982.

TURN states that in its decision in this case the Commission must decide whether Edison has shown, with clear and convincing evidence, that the renegotiation was reasonable. According to TURN, this task will not be easy. All relevant evidence - except the actual written contracts themselves - is controlled by the seller and buyers, only one of which, Edison, is subject to the jurisdiction of this Commission. And because, one presumes, all the parties to the contracts would agree that the renegotiated product was reasonable and that the utilities drove a hard bargain, how could the Commission ever find to the contrary?

According to TURN, we know from the voluminous testimony of Edison's witnesses that they think that the negotiators drove a hard bargain and did a wonderful job. We know too that they can document their efforts to confirm Utah's claim that it was experiencing financial hardship under the 1966 Agreement. Indeed, Edison and its co-owners conducted a mini-rate case, commissioning studies of mining efficiency, rates of return, and the integrity of Utah's books. TURN contends that this should not be dispositive; otherwise all utility contracts would be presumed reasonable barring proof of fraud, collusion, or intentional deception. Such a regulatory standard is too low.

TURN asks the Commission to find that Edison has not met its burden of proof. TURN states aguably Edison has shown why it was compelled to "re-open" the escalation formulae so that they would capture more perfectly the effects of inflation or changed economic conditions. It has not shown why it and the other owners went on to make additional concessions: (1) adding a maximum coal requirement, (2) a take or pay clause, (3) a new pricing component to increase Utah's profits as a function of expenses, and (4) a clause permitting renegotiation of price every five years upon a showing that Utah's profits are greater or less than the levels expected by investors in comparable mining investment.

TURN asks: By what authority did Edison and its co-owners assume the right to confer quasi-utility status on Utah? By what authority did the buyers presume to decide on the profits (as opposed to the expenses) to which Utah was entitled?

TURN observes that Edison claimed that it feared that arbitration, the threat of litigation, or the possibility of ill will of any kind would have jeopardized the reliability and quality of their coal supply. Further, Edison believed Utah could have refused to dispose of quantities of coal ash produced by newly required scrubbers if they had not agreed to give in to some of its demands.

TURN argues that such fears and concerns are not dispositive. The test of reasonableness is not the bona fides of the Edison negotiators, nor is it the volume or calibre of studies, reports, and other evidence that renegotiation proceeded with diligence and outside opinions.

TURN states that the questions of fact and law before the Commission are simply these: What is the plain meaning of the original 1966 contract? What were the presumed intentions of the parties at that time? Were Edison's above-mentioned fears and concerns reasonable, or were they based on a timorous deference to the possibility of bullying threats from its coal supplier? According to TURN, the Commission must ask itself what a private, unregulated business entity - not a public utility with pass-through privileges - would have done under similar circumstances.

TURN argues that under the terms of the 1966 Agreement, Edison could not have been forced by Utah to do more than renegotiate the escalation formulae used to calculate specific expense related coal price components. TURN claims it was unreasonable, therefore, for Edison to agree to increase Utah's profits and to change other terms of the 1966 Agreement to the detriment of the buyers. TURN cites the language of Subsection 7.1.b of the contract, which reads as follows:

> "The possibility is foreseen that, through the operation of forces which are not within the reasonable control of the parties, there may occur extreme or radical changes from the economic factors and conditions which existed at the time of negotiation of this agreement. Should such a change occur and should its effect be such as to seriously distort or render clearly inequitable the application of the methods of escalation hereinafter provided, with the result that either party would suffer material injury or loss by the continued application of such methods of escalation, then revised methods of escalation shall be adopted so as to produce, in the light of then existing and prospective circumstances,

> reasonable and equitable escalation adjustments to the base price."

TURN claims that this provision does not provide for generally reopening the pricing mechanism.

According to TURN, the "methods of escalation hereinafter provided" are set forth in detail in Section 7 of the Agreement. As explained in Subsection 7.2, the "Base Price" of coal is computed by adding together six different "Price Components", each represented by a particular symbol:

T	Tax
L	Labor
M	Materials and Supplies
E	Electric Power
C	Consumable Equipment
N	Nonescalating

Each of the price components, except by definition the "Nonescalating" component ("N" for short), escalate in accordance with elaborate formulae described in Section 7. TURN argues that obviously Subsection 7.1.b was not intended to reopen "N" because that component is not a "method of escalation." Significantly, "N" was intended to supply Utah with its profits and costs of depreciation. TURN contends that one must conclude, therefore, that only <u>expense</u> items were expected to escalate and, if necessary, to be renegotiated. Profits and all other costs not separately stated were intended to be fixed for the life of the contract.

TURN claims that notwithstanding the plain language of Section 7.1.b quoted above, Edison and the other owners added a seventh price component in the Fourth Supplement, the "inflation-deflation" component. TURN states that this name is deceptive because "D" can grow in size in the absence of any inflation or

deflation. According to TURN, it should probably have been called the "value" component, for it compensates Utah for the value of its coal by providing suitable profit levels.

Further, TURN contends that there is nothing in Subsection 7.1.b that could have compelled Edison to make basic concessions in the Agreement's coal quantity provisions. TURN also argues that nor is there anything in the Agreement that suggests that Utah had a right to a fair rate of return at the mine. And yet, TURN observes, Edison agreed to add take or pay provisions, maximum annual delivery rates, and a clause stating that:

> "At any time five years after the effective date of this Supplement No. 4, and at intervals of not less than five years thereafter, if either Seller or Buyers are of the opinion that the price being paid to Seller under this Agreement results in a rate of return to Seller from its operations under this Agreement which deviates significantly from a rate of return based on depreciated book value of assets reasonably to be expected by investors in an enterprise similar to Seller's operations, then such party who is of such opinion may call on the other parties hereto for a readjustment of the price to bring Seller's expected future return to a level equivalent to that expected by such investors."

TURN argues that since no provisions similar to the "inflation-deflation" component, the take or pay obligation, and the rate of return adjustment appear in the 1966 Agreement, it was unreasonable to add them.

TURN argues that the 1966 Agreement, even if it turned out to be unprofitable for Utah, was still enforceable by Edison and the other utilities. According to TURN, a case very much on point is Missouri Public Service Co. v Peabody Coal Co. (1979) 583 SW2nd 721. TURN states that in 1967 Missouri Public Service Co. (Public Service) signed a 10-year coal supply agreement with Peabody Coal Co. (Peabody) to meet the requirements of a newly constructed

generating station. The agreement specified a base price per ton, subject to certain periodic price adjustments relating to costs of labor, taxes, compliance with government regulations, etc. The agreement also contained an inflation escalator clause based upon the Industrial Commodities Index of the U.S. Department of Labor. At first, performance under the contract was profitable for Peabody, but after a while production costs began to outpace the price adjustment features and Peabody requested modifications; Public Service refused. When Peabody announced its intention to cease shipments of coal, Public Service sought and obtained a decree of specific performance.

The Missouri court ruled for Public Service, rejecting Peabody's contention that the doctrine of commercial impracticability should apply because losses stemming from inflation and the Arab oil embargo were completely unforeseeable at the time of the execution of the contract in 1967. The court concluded:

> "It is apparent that Peabody did make a bad bargain and an unprofitable one under its contract with Public Service resulting in a loss, the cause and size of which is undisputed. But this fact alone does not deal with either the 'basic assumption' on which the contract was negotiated or alter the 'essential nature of the performance thereunder so as to constitute 'commercial impracticability.'" (278)

TURN claims that Edison has alleged, but failed to prove, that the quality and reliability of the Four Corners' coal supply would have been jeopardized if it had chosen arbitration, and that it received real cosideration in return for the concession to Utah. According to TURN, upon reflection, "Edison's impressive panoply of extra-contractual considerations evaporates into thin air."

Regarding possible litigation, TURN states that Edison feared that Utah would forego arbitration and decide to litigate the

contract issues. Such litigation, the theory goes, would have been based on a two-fold cause of action: first, the owners' failure to respond to the hardship claim, and second, the alleged failure of a basic condition upon which the Agreement was executed in 1966, i.e. the owners purchasing substantially less coal than originally projected. TURN argues that this second threat merits no credence whatsoever and should have been summarily rejected: the 1966 Agreement had no minimum purchase obligation. Further, TURN claims that a "response to the hardship claim" could - and should - have been a request for arbitration under Subsection 7.1.c. According to TURN, despite the rationale offered for not pursuing arbitration, the owners would have only had to change existing, expense-related pricing mechanisms, a far superior result than that obtained by negotiation.

Regarding reliability of supply, TURN states that Edison alludes to "concerns about the reliability of coal supply and quality-control measures which Utah would exercise during the lengthy trial process." TURN observes that Edison's witness Huettemeyer spoke of Edison's concern:

> "I think the concern we had was not simply that Utah would shut off the coal supply. That would be, you know, not a very realistic assumption.
>
> "When you force a party into the condition where they have to lose money, where they don't make a fair and equitable rate of return, I think a reasonable response to that condition would be to tighten your belt. You cut corners."
>
> * * *
>
> "We were concerned that Utah would, by tightening the belt and by cutting corners, reduce that margin and then any unforeseen event would have resulted in the loss of coal to the participants while Utah would have had an easy out claiming a force majeure, saying we had a strike, we had a -- and it is specifically mentioned as such a condition.

> "If they would not treat their people right, they may become rebellious and, you know, not show up for work.
>
> "They may not maintain the machinery perfectly well, and it's very difficult to unscramble equipment problems if they were the result of maintenance, neglect, or if this was a random failure beyond the reasonable control of somebody."

TURN argues that these alleged concerns are merely weak excuses. According to TURN, Edison had a binding contract with a subsidiary of General Electric Corporation. It could have gone to a court of law or equity and sought appropriate remedies to enforce its contractual rights. TURN states that the Commission, as a matter of public policy, should require utilities under its regulation to enforce legally binding contracts with their fuel suppliers. In determining whether or not they have done so the Commission should give no weight to excuses based on real or imagined threats of actual or constructive breach of contract. TURN argues that just because the Four Corners station is completely dependent on Utah's fuel supply does not mean that the owners must tremble before bullying demands.

TURN observes that prepared testimony sponsored by Edison mentions certain environmental issues that had to be resolved between the owners and Utah, including (1) coal ash disposal, (2) waste product disposal for the scrubbers and baghouses, (3) relocation of a portion of Utah's coal-storage area to obtain room for scrubbers and baghouses, and (4) access to additional waste supplies required for the operation of the scrubbers. TURN claims that nothing in that prepared testimony prepares one for Huettemeyer's unshakeable conviction that Utah's threat to leave these concerns unresolved was a trump card of immense significance in the bargaining process:

> "The participants had other issues which they needed to resolve, and arbitration would not have done anything.

> "They didn't have a place to put the ash. . . . Utah canceled the ash agreement with us in 1979. And it expired at the end of 1980.
>
> "We had the problem of disposing of 1.4 million tons of ash, which is a material difficult to handle. . . .
>
> "We had a construction project underway which involved 400-plus, 450-plus million. It generated additional waste product, which we didn't know where to put it.
>
> "We didn't have water to operate the scrubbers.
>
> "We were afraid we would lose the rights to the water. We had to make provisions for that. And without water those scrubbers wouldn't have operated, without scrubbers as mandated by the regulatory agencies in New Mexico, the plant wouldn't have operated."

According to TURN, one need not doubt the sincerity of Huettemeyer's testimony, nor question the importance of the environmental issues that had to be separately negotiated with Utah, but it does not follow that one must accept Edison's premise, i.e. that they gained valuable considerable from Utah which more than offset what they gave away in the Fourth Supplement.

TURN argues that there has been no direct showing whatsoever that Utah incurred any additional costs - for which it could claim some kind of concession in return - in the process of accommodating the utilities' scrubber installation program requirements. According to TURN, every single cost - water for the scrubbers, ash handling and disposal, reclamation of pits left open for ash, etc. - was to be paid for by the utilities. TURN claims that Utah's accommodation had no associated opportunity cost.

TURN argues that the Commission should not accept Edison's claim that Utah could have shut down the whole Four Corners station by refusing ash and otherwise accommodating the new scrubber requirements. According to TURN, if this were so, Utah could have

demanded anything for these rights, up to and including the cost of the "major civil engineering undertaking" that would have been required to accommodate the scrubbers. TURN claims that there is nothing in Edison's direct showing that supports the reality of such a threat; nothing that indicates that these considerations were ever more than mere "housekeeping" matters, now blown up to fantastic proportions by a very defensive litigant.

TURN also discounts what it calls "noble sentiments" that Edison mentions. The Commission refers to the testimony of Huettemeyer and cites a "representative instance":

> "When you have a business dispute which needs to be resolved, obviously you have two ways of responding to that.
>
> "One is that you be unresponsive and go through litigation, or, you know, fail to take any active part in the proceeding, and throw the resolution to an arbitration panel, if that is required, before you start to litigate.
>
> "The second way would be to negotiate a resolution between informed and honorable parties. And obviously, when you do embark on a course of that nature, you can end up with two types of resolutions.
>
> "One is where you end up with a compromise, where both parties feel comfortable.
>
> "The other one is where you gain all the advantage.
>
> "Now, usually those are not very long lasting, and you can pull those tricks only once. And in the aggregate, if you become known for taking advantage in an unfair manner of the other parties, everybody is very careful dealing with you, and the end effect, your prices go up, because there is a risk on dealing with you."

TURN states that these are noble sentiments, indeed, but the Commission should not be swayed by them. According to TURN, it is easy to be generous and "honorable" with someone else's money (in

this case, the ratepayers). TURN argues that Edison's negotiator is simply wrong when he characterizes the pressing of legal and equitable claims as "tricks" that can only be pulled once. TURN asks was Public Service dishonorable or guilty of "tricks" when it held Peabody to what turned out to be a bad bargain for the vendor? Would renegotiation of the escalation formulae have represented the only "honorable" conduct by Edison? Were the above-mentioned threats of Utah - assuming, arguendo, they were threats - tricks? Is it "honorable" to induce utilities to build power plants in remote locations and to promise to supply them for their lifetimes with a unique source of coal, then, having succeeded, to threaten to shut down those plants by refusing to accommodate new scrubber requirements?

TURN states that if Edison and the other owners - whether through arbitration or negotiation - had merely made adjustments of these kinds, the Fourth Supplement could arguably be shown to meet proper standards of regulatory review, but the utilities went further. TURN states that they decided that Utah had a right to a reasonable "bottom line"; to this end they added the "inflation-deflation" component so that Utah would earn a reasonable return on the depreciated value of its investment at Four Corners. According to TURN, one could argue about how much that "reasonable return" should have been, but this is beside the point. TURN claims there is nothing in the 1966 Agreement that speaks of a fair rate of return and no hint that the parties contemplated any specific mechanism to provide one. TURN argues that in this instance Edison's generousity must be viewed as imprudent and its actions as unreasonable.

TURN calculates that the impact of the renegotiation of the Fourth Supplement was about $4.4 million in 1981 and about $4.6 million in 1982. TURN contends that the Commission could well conclude that Edison failed to prove the reasonableness of the renegotiation and disallow these sums.

Alternatively, TURN suggests that the Commission, from its own reading of the 1966 Agreement, could decide that Section 7.1.b might reasonably have compelled the parties to change the escalation formulae to better track the various mining expenses. Upon such a decision TURN suggests that the Commission could accept as reasonable the changes actually made in those formulae, and permit costs attributable to those changes to be recovered. If so, TURN urges the Commission to disaggregate and disallow all coal costs attributable to the operation of the "inflation-deflation" component: about $.92 million in 1981 and about $2.4 million in 1982. In addition, TURN contends that the Commission should find and declare that it was unreasonable for Edison to have added a maximum coal delivery, a take or pay provision, and a "profits reopener" to the original agreement. Thus, Edison would be put on notice that any future costs generated by the operation of these provisions would be disallowed for ratemaking purposes.

The position of Revenue Requirements Division and Fuels and Operations Branch is that Edison's coal prices were reasonable. However, the Legal Division "advises against a general finding that the coal contract as renegotiated" is reasonable. Legal Division argues that, "at best, the renegotiated contract as applied to 1981 and 1982 presses the bounds of reasonable renegotiation. Beyond that time frame, the contract raises serious doubts as to its fairness to the ratepayer."

Legal Division's concern is with the deletion of the original price escalation mechanism (Section 7.1.b) and the substitution of the new price reopener provision (Section 7.13). Legal Division is concerned that the changes may seriously disadvantage ratepayers.

Legal Division states that deletion of Section 7.1.b removes the owners' prior right to limit future escalation adjustments in the coal price to levels that are reasonable and equitable as to them. Section 7.1.c provided that if the parties were unable to agree concerning the need for price escalation, or

upon revised methods of escalation, then the matters at issue would be determined by arbitration.

Instead, according to Legal Division, by new Section 7.13, the owners may challenge Utah's coal price only insofar as Utah's rate of return deviates significantly from the rate of return expected by investors in existing coal mining ventures. Whether Utah's return is consistent with that of a similar enterprise says nothing directly about the resulting coal price, whereas the protection afforded the owners and their ratepayers for reasonable and equitable adjustments has disappeared.

Secondly, Legal Division states that the adoption of Section 7.13 tends to assure the "going" rate of return to Utah, where it had no such assurance previously, except under the interpretation placed, apparently, by all of the parties on Section 7.1.b. That section did not directly address rate of return. It addressed price escalations in face of extreme economic changes. It provided for reasonable and equitable results for both parties and for the resolution of disputes by arbitration. Legal Division claims it is difficult to see how the "reasonable and equitable" provision can be interpreted other than to limit price adjustments to what is fair to both parties.

Thirdly, Legal Division states that adoption of Section 7.13, by its tendency to ensure the "going rate of return" for Utah, may also link the price of Utah coal to energy prices generally in the volatile years ahead. Utah's original claim for hardship relief, in December 1978, stressed the prevailing demand and market price for coal, the quadrupling of the international oil price by the OPEC nations, and the attendant effect on demand for all energy minerals, etc.

Legal Division argues that the price and other security protections newly afforded the supplier under the renegotiated contract are substantial. While the contract called for consideration of a hardship claim under the "reasonable and equitable provisions of Section 7.1.b, it is questionable whether a going industry rate of return was necessary to ameliorate hardship. According to Legal Division, it can almost cetainly be said that anything more than a going industry rate of return was not necessary to ameliorate hardship. Under the original contract, the owners and their ratepayers received low-cost coal compared to that provided by other coal producers. The renegotiated price, for 1982, places Four Corners' coal price in ninth place compared to eighteen other generating stations. (Compared to fourth place under the prior contract.) Under Section 7.1.b, therefore, neither arbitration nor litigation could have been expected to result in any higher price than Utah, in fact, received for 1982. Thus, Legal Division contends that any advantage the supplier receives in the future as a result of Section 7.1.b appears to represent an added bonus. Furthermore, to the extent such advantage results in prices in excess of market average, it represents a loss to the owners that would have been more difficult to sustain absent the deletion of Section 7.1.b.

Legal Division states that ultimately, perhaps, it is a question of how much the owners should have conceded to avoid litigation on the one hand and to obtain resolution of the separate issues previously mentioned. According to Legal Division, it does not appear that the threat of litigation merited substantial concessions. The owners could have countersued for failure to renegotiate the other outstanding issues between the parties, or have alleged impossibility of performance on their side in the absence of agreement about the scrubber waste, water, and ash disposal. Legal Division argues that no basis has been offered by Edison whereby Utah

could, one the one hand, invoke the equitable terms of one contract (the coal contract) and, at the same time, withhold the means for the other party to perform under the contract being sued upon. Legal Division claims that it would have been for the owners to show the essential relationship between the coal contract and these other requirements. Consequently, a judgment on a fair price adjustment might well have disposed of the other issues between the parties.

Therefore, Legal Division states that it appears fair to say that some concessions by the owners were justified in order to resolve the additional issues between the parties and by both sides in order to avoid litigation. However, Legal Division claims that while numerous concessions were obtained by Utah, "concessions" to the owners, on the other hand, consisted of some minimum reductions in new benefits sought by Utah, plus a price structure that provided Utah an 18% return, compared to its 21% proposal and the negative return previously earned. Legal Division states that it is difficult, then, to see the justification for the new protection in the level of Utah's rate of return when, at the same time, the owners have abandoned their right to future equitable price increases.

Legal Division observes that it is proposed by Edison that both the coal contract settlement and the resulting coal price are reasonable. According to Legal Division, the Commission has stated that it is not its role directly to invalidate utility-supplier contracts, but rather to allow only reasonably incurred costs to be recovered in rates. However, even assuming that the 1981-1982 coal prices are found to be reasonable, Legal Division states that either now or in the future the Commission must address Section 7.1.b and the impact of its elimination on future coal prices. Legal Division contends that equitable coal price increases appear to be no longer assured, as a result of elimination of Section 7.1.b. According to Legal Division, either that change was justified as a part of the

bargaining package, or it was not. Legal Division suggests that it was not justified. Legal Division states that unless the Commission resolves that issue now, not only may it be necessary to analyze the entire contract annually to determine the basis for price increases, but the tendency may be to conclude that the contract renegotiation was reasonable if 1981-1982 coal prices are deemed reasonable.

Legal Division observes that Edison has stated that a test of the reasonableness of the settlement can be obtained from a market price comparison. According to Legal Division, under Section 7.1.b, it appears unlikely that Utah could have obtained more than the going industry coal price obtained in 1982. Previously, under this 35-year contract, the parties could invoke arbitration to achieve equitable price increases. Legal Division suggests one approach might be for the Commission to determine in this proceeding that, in future, it will presume, subject to rebuttal, that the going industry coal price represents the maximum price that will be considered reasonable. Legal Division states that this assumes a finding that elimination of Section 7.1.b has not been shown by Edison to have been a reasonable concession and a finding that the coal prices for 1981 and 1982 are reasonable.

In response, Edison observes that the parties to the proceeding disagree with respect to the meaning of the reopener provision of the Agreement, Section 7.1.b which reads as follows:

> "The possibility is foreseen that, through the operation of forces which are not within the reasonable control of the parties, there may occur extreme or radical changes from the economic factors and conditions which existed at the time of negotiation of this agreement. Should such a change occur and should its effect be such as to seriously distort or render clearly inequitable the application of the methods of escalation hereinafter provided, with the result that either party would suffer material injury or loss by the continued application of such methods of escalation, then revised methods of escalation

> shall be adopted so as to produce, in the light of then existing and prospective circumstances, reasonable and equitable escalation adjustments to the base price. It is not the intent of the parties that such revision in methods of escalation, pursuant to this Subparagraph, should result in depriving a party of savings or advantages arising from additional investments in facilities or from improvements effected in unit costs, efficiency or profitableness of its operations, where there is no attendant adverse effect upon the other party."

Edison notes that TURN interprets this section of the Agreement to have severely limited Edison and the other participants in selecting adjustments to the base price. Edison argues that TURN's claims blatantly disregard accepted legal standards of construction and interpretation of contracts and deliberately disregard the detailed explanation of the meaning and intent of the Agreement provided on the record by Edison.

Edison states that all parties to the Agreement, i.e. the six Four Corners participants and Utah, are in agreement on the meaning of the key phrase of Section 7.1.b which reads "...then revised methods of escalation shall be adopted so as to produce, in the light of then existing and prospective circumstances, reasonable and equitable escalation adjustments to the base price." Edison claims that this language clearly and on its face does not restrict the mandated revisions to a selection of the base price components, e.g. the five escalation formulae, as TURN claims. Neither does it preclude the addition of new price components. According to Edison, this language simply requires the parties to adjust the escalation of the base price to provide under the then existing and prospective circumstances a reasonable and equitable price level. Edison states that TURN apparently only relied upon the first part of this sentence and based its arguments on the phrase "methods of escalation

hereinafter provided" which lead it into Section 7.2 where TURN found its "escalation formulae" and the nonescalatable price component. According to Edison, TURN never acknowledges the second and key part of the sentence, which clearly leaves it up to the parties to choose any "revised methods of escalation" necessary to achieve "reasonable and equitable escalation adjustments to the base price". Edison states that the "revised methods of escalation" can include, but are clearly not limited to, revisions to the escalation mechanisms listed in Section 7.2 of the Agreement.

Edison observes that TURN urges that the Commission ask itself what a private, unregulated business entity (not a public utility with pass-through privileges) would have done under similar circumstances. Edison states that the record shows that Edison approached the renegotiation in a manner similar to an unregulated business. According to Edison, it used two financial tests commonly selected by reasonable businessmen:

1. The market rate of return test which can be used to determine what the lowest reasonable and equitable price level should be under existing and projected economic circumstances and in light of the allocation of risk between the parties.

2. The market-price test which is a more difficult test to implement for the situation existing at Four Corners since a market-price environment for the coal supply to Four Corners does not exist. However, this test is still meaningful to determine that the price paid for Four Corners coal is reasonable if the prices of coal sold by other suppliers are adjusted appropriately to compensate for the differences in coal quality, transportation, and mine situations.

Edison claims that TURN, in its arguments, failed to offer any alternatives to these tests.

Edison notes that TURN argues that the 1966 Agreement was fully enforceable, and that "the Commission, as a matter of public policy, should require utilities under its regulation, to enforce legally binding contracts with their fuel suppliers." Edison states that it agrees, and did exactly that, when it consented to negotiate price adjustments in good faith under the reopener provisions of Section 7.1.b.

Edison states that it and the other five participants did not make the decision to negotiate rather than to arbitrate in an atmosphere of "vague fears". According to Edison, the participants concluded that arbitration would not be in their best interest or the interest of their customers since it diminished the participants' control over the process of price adjustment and narrowed the scope of issues eligible for consideration and negotiation. Edison states that any third-party decision of an arbitrator would have been based on the same commonly accepted financial tests that were used by the participants. Edison contends that discounting rate of return considerations as being "beside the point" does not disprove the reasonableness of the settlement negotiated by the participants. According to Edison, the five-step price increase, the minimum purchase provision, the new price reopener mechanism, and the other terms and conditions of the Fourth Supplement represent in the aggregate a carefully negotiated compromise between the initial proposals of the parties. Edison argues that one can arbitrarily construct settlements more favorable to one party or the other; however, that does not make these theoretical solutions realistically achievable in a bargaining situation. Edison states that its settlement was based on the undisputed results of commonly accepted financial tests, there is no reason to believe that third-party decisions would have resulted in terms more favorable to the ratepayer than those which were achieved by Edison and the other five participants.

Further, Edison argues that arbitration would not have resolved other issues that were of significant concern to the participants. Edison contends that TURN deliberately mischaracterizes the description of the negotiating process by claiming that these other issues regarding coal supply reliability and quality prompted unreasonable concessions. According to Edison, the testimony clearly explains that the "other issues" and the concern about the coal supply played an important role in the decision to negotiate rather than arbitrate and were not the reason for granting of concessions. Edison claims that the terms and conditions of the Fourth Supplement are the result of trade-offs between price level and risk sharing that were negotiated in good faith by professional businessmen concerned about all aspects of the Four Corners operation.

Regarding TURN's proposal to disallow only a portion of the increased coal costs, Edison observes that TURN claims that the price reopener limited the revisions to the base price to the "escalation formulae". Edison argues that TURN ignores the clear language of Section 7.1.b as well as the declared intent of the parties clearly demonstrating the meaning of the price reopener. According to Edison, the reopener provision clearly requires adoption of "revised methods of escalation" which "produce in the light of then existing and prospective circumstances, reasonable and equitable escalation adjustments to the base price." Edison claims that TURN brushes aside the need to consider the overall reasonableness of the price adjustment as being "beside the point", but, Edison argues, this is the very essence of the reopener provision.

Edison states that the parties had agreed that they would negotiate, in good faith, reasonable and equitable price adjustments once the reopener had been triggered. According to Edison, the parties based their settlement on accepted financial tests commonly

used by reasonable businessmen to determine the viability of a project and reasonableness of a price. Edison argues that TURN offers no evidence to dispute the reasonableness of the renegotiation. Therefore, Edison concludes that TURN's disallowance recommendation warrants no consideration whatsoever.

Edison observes that the suggestions of Legal Division go contrary to the recommendations of Revenue Requirements Division and Fuels and Operations Branch and the two previous reports filed by these groups.

According to Edison, the conclusion Legal Division draws is not logical. Edison claims that the intent of the parties to the agreement with respect to Section 7.1.b is clear. Edison argues that its staff would have followed accepted legal practice in contract construction and interpretation and refrained from inventing a new contract, and had accepted the expressed intent of the parties, staff would have supported the participants' position, i.e. that "reasonable and equitable" required a market rate of return test.

Edison states that nobody likes to pay higher prices; however, a higher price for a commodity does not prove inequity by itself. According to Edison, only if this higher price would have resulted in the participants' customers and/or stockholders suffering material injury or loss could the price reopener provision provided for in the original Agreement have been activated in order to adjust the price. Edison states that obviously, if the participants today are paying up to five to six dollars per million Btu for gas and oil, the participants could not reasonably claim "inequitable" coal prices based on paying less than one dollar per million Btu for the coal at Four Corners. Edison contends that even assuming very extreme escalation of coal prices, it is difficult to see how this differential fuel cost between coal and other energy sources could be significantly reduced in the future. Edison states that one must

remember that the participants had included this "equity" constraint in the reopener in 1966 when coal, oil, and gas prices were effectively at the same price level. Since then, oil and gas prices have dramatically increased. Edison argues that the value of the original provision of "equitable" adjustments to the participants had been erroded completely by the changed economic environment and did not represent protection against high coal prices as Legal Division claims.

Edison contends that Legal Division apparently ignores the constraints of the real business world when it states:

> "Whether Utah's rate of return is consistent with that of similar enterprises, says nothing directly about the resulting coal price, whereas the protection afforded the owners and their ratepayers for reasonable and equitable adjustments has disappeared."

According to Edison, the market rate of return test is routinely used by businessmen and governmental agencies to determine the lowest reasonable and equitable price level possible under the circumstances. Edison states that clearly, the two concessions obtained from Utah, i.e. the right to audit the actual rate of return achieved by Utah's mine and the limitation of the mine's profit to the return level of similar operations by an independent CPA firm, will provide the protection against excessive profits of the coal supplier that was not provided by the original reopener provision.

Edison further contends that Legal Division disregards the price comparisons performed by staff's Fuels and Operations Branch and then misinterprets Edison's market price comparisons.

According to Edison, the raw delivered coal prices paid by utilities need to be adjusted for transportation costs, coal quality, and mining complexities to provide a meaningful comparison of mine-mouth coal prices. Edison states that obviously, only mines of

similar complexities can be used in drawing conclusions as to the relative position of Four Corners mine prices. Edison argues that Legal Division mixes simple mines with the more complex Four Corners' operation. Edison argues that the correct interpretation shows that at a comparable complexity level, Four Corners prices were uncharacteristically low prior to the renegotiation. According to Edison, in 1982 Four Corners actual prices were still below this market range. Even in 1983, after the full impact of the five-step increase is reflected in the coal price, Four Corners still has the lowest coal price when compared with mines of similar complexities.

Thus, Edison contends that the correct conclusion to be drawn from Edison's market price analysis is that neither arbitration nor litigation could reasonably have been expected to result in any lower price than Utah, in fact, received for 1982.

3. Discussion

In this case, we will adopt the recommendations of the Revenue Requirements Division and Fuels and Operations Branch to the extent that they find that Edison's coal prices are reasonable. However, we will also adopt Legal Division's recommmendation and refrain from finding that the renegotiated coal contract is reasonable. Numerous provisions in the contract lead us to believe that ratepayers may be seriously disadvantaged by the new contract.

While it is arguable that Utah was entitled to some price relief, Edison has made considerable concessions which could result in substantial price increases. Utah is now entitled to escalation based upon monthly indexing rather than historical, annual inflation indices. Utah will now be fully reimbursed for regulatory and royalty costs. Utah's rate of return is substantially protected by the new five-year reopener clause which is triggered by prevailing market rates of returns for similar mine investments. And Edison has now agreed to a minimum obligations clause under which Four Corners

Units 4 and 5 must use 6.3 million tons of coal per year or pay 76% of the contract price; compared to the average take level of 6.7 million tons per year, there is little margin for reducing Four Corners output without triggering this take-or-pay clause.

Edison has argued that the price paid under the negotiated contract is presently favorable as compared to prevailing coal prices. We agree for the moment. We also agree that market price is a fair test of the fuel prices paid by Edison. We will in the future measure the reasonable cost of coal purchased under the renegotiated contract by comparing the price paid against market price; we expect that price to remain most favorable to the ratepayer in light of the fact that Edison has dealt away what was once an extremely favorable contract. Finally, take-or-pay obligations in natural gas supply contracts have come under intense scrutiny and disfavor. That bias should be effectuated in the case of coal supply contracts, too, especially where, as here, a captive seller is involved. Therefore, if Edison incurs liabilities for coal not taken, it shall record those liabilities in a noninterest-bearing account. If and when Edison exercises its makeup rights, the total price paid (the minimum take penalty plus the cost under the makeup provision) shall be recoverable to the extent determined reasonable through our ECAC reasonableness review process.

B. The Diesel Generator Fire

1. Background

The outage caused by the fire which damaged one of two emergency diesel generators at SONGS 1 was from July 17, 1981 to August 16, 1981. The two diesel generators are "nuclear safety-related" equipment, both of which are required by the Nuclear Regulatory Commission (NRC) to be operatable before the unit itself can be operated.

The fire was caused by a small oil leak in a section of instrument piping attached to the diesel engine; the oil ignited when it sprayed onto a hot diesel generator component. The piping which failed was connected to a pressure gauge which was determined to have been installed for use during the initial start-up testing of the diesel. This gauge indicated discharge pressure of the diesel engine-driven lube oil pump.

The pressure gauge assembly was installed with materials appropriate and suitable for the temporary testing purpose. The components were of a commercially available quality normally used for industrial installations and were installed as appropriate for a temporary installation. Upon completion of the testing, the lube oil line and gauge were not removed and remained in operation from start-up until July 14, 1981, when the brass fitting connecting the tubing to the gauge ruptured due to fatigue cracking. Normally, steel fittings would be used for permanent installation by the manufacturer. The diesel generator was not required to be in operation at all times because it is used only for back-up power in case of emergencies. Edison's witness estimated that the generator running time amounted to approximately four hours per month, for a total of approximately 300 hours up to the time of the fire. The brass fitting continued in service for a five-year period.

Prior to the fire, a small oil leak had been reported in the vicinity of the piping in question. Small leaks occasionally occur at fittings. When evidence of a leak was discovered, a maintenance order was promptly written by operations personnel requesting that the oil leak be found and repaired. Maintenance personnel searched for the source of the leak, but could not locate it while the diesel was shut down. (The leak was in a pipe connecting a pressure gauge to the diesel engine-driven lube oil pump discharge piping. The oil in this pipe is not under pressure except when the diesel is running. A leak in this pipe would not be apparent with the diesel shutdown.) Since the exact location of the leak could not be determined with the diesel shutdown, examination was performed with the diesel running during the very next normal, scheduled, NRC-required monthly load test. When the piping connected to the gauge was moved slightly, it failed and oil sprayed out, causing the fire.

The response to the fire was immediate, and it was extinguished within eight minutes, minimizing the extent of the damage. Despite Edison's prompt response to, and extinguishment of, the fire, temperatures were estimated to have reached 1,200°F in the area, which caused significant damage to the diesel generator. NRC found that "the coordinated effort between the Control Room operators in securing (the) diesel promptly and the rapid response of the Fire Brigade was instrumental in limiting the fire to only 7 minutes, and thereby greatly reducing the damage to the diesel."

Edison took extensive measures to minimize the length of the outage. Unit 1 continued operation for approximately 72 hours after the fire, security requirements were waived to improve productivity, work continued around-the-clock, a thermal profile of the fire was performed to expedite assessment of damage, and a task force was mobilized to expedite all repair activities.

Edison continued to generate electricity with Unit 1 for approximately 72 hours after the fire incapacitated the diesel. In order to continue operation for this period, Edison was required to take additional measures to insure safe operation, such as verification of other power supplies, to gain NRC agreement for this continued operation. During these 72 hours, no time was wasted in mobilizing a repair team to plan the repairs and assess the extent of the fire damage. Since the diesel generators are "nuclear safety-related" equipment, repairs performed had to be carefully documented pursuant to NRC requirements. The first step taken following the fire was assessment of the damage; all parts of the diesel had to be examined and determined if they were still suitable for use.

Edison expedited the work process in several ways. In order to improve productivity, the security requirements of the diesel area were reduced to allow for expeditious entry and exit of personnel. Edison established a reduced security program in order to gain NRC consent to waive the original security requirements. Otherwise, each person requiring access to the diesel would have had to get a security clearance, been issued a security card-key, and logged in and out at the diesel building door at each entry and exit. These requirements were waived in order to reduce the length of the outage. The diesel repair work continued around-the-clock so that the unit would be shut down for the shortest amount of time.

In order to expedite assessment of equipment damage, Edison performed an innovative and sophisticated thermal analysis to establish the thermal profile for the fire event. This greatly assisted in evaluating damage to equipment by heat, fire, and smoke. First, any system or material that could have been damaged or degraded by smoke or products of combustion was cleaned and tested. Second, any system or material that could have been damaged or degraded by "mild" temperature excursions (250°F to 300°F) was

cleaned and tested, because almost all areas of the diesel generator building were subjected to these temperatures at some time during the fire. Third, any system or material that could have been damaged or degraded by temperatures estimated to have occurred in that area during the fire were tested and evaluated, to the extent necessary, to determine if it had, in fact, been damaged or degraded. In all cases, if it was determined that a system or material had been damaged or degraded, it was replaced by a qualified replacement, or repaired and restored to "new" specifications (NRC safety grade).

As various components were evaluated and the determination was made to retain, repair, or replace, NRC-required documentation of the disposition of the component was maintained. For each piece of equipment removed, for any reason, drawings had to be maintained showing the status of each part. "Nonsafety-related" parts had to be "quarantined" to ensure that they did not inadvertently become mixed in with "nuclear safety-related" parts. "Nuclear safety-related" parts which required replacement had to be replaced with quality-assured "nuclear safety-related" parts which met original specifications for the diesel.

Those parts which wear out during normal operation are maintained on site as spare parts. Those parts which are not expected to wear out and, consequently, are not kept on site as spare parts, must be procured from a limited number of qualified suppliers. These parts are generally not available "off-the-shelf", primarily due to quality-assurance requirements for "nuclear safety-related" equipment.

Hundreds of pieces of equipment had to be evaluated. Two thousand feet of tubing and over 400 instrument fittings were replaced as a result of the fire. Many valves, level and pressure switches, pressure gauges, cabling, conduits, and light fixtures were replaced. Motors, heaters, the generator, control cabinets,

ventilation equipment, turbochargers, aftercookers, filters, tanks, sprinkler piping, and pumps were evaluated and repaired or replaced as required. Much of the damaged equipment (not ordinarily expected to require replacement) was not immediately available for the reasons discussed above. Such equipment included both turbochargers, the governor, control panels (containing much cabling, many gauges, and many switches), and numerous individual gauges. For this equipment, Edison formed a task force to expedite locating, ordering, receiving, and installation of replacement parts in order to minimize the length of the outage.

As a result of Edison's efforts, the length of the outage was limited to only one month, and Unit 1 was returned to service on August 16, 1981, following successful NRC-required testing of the repaired diesel generators. The amount of replacement energy cost associated with this outage is $14,194,000 on a total system basis, or $13,147,000 on a CPUC jurisdiction basis. Edison seeks to recover this amount through ECAC. Staff and TURN take the position that recovery should be denied on the basis that the replacement fuel costs were unreasonably incurred.

2. Position of the Parties

Edison states that in deciding whether an expense item is reasonable for purposes of recovery through ECAC, a rule or standard of reasonableness must necessarily be applied to the facts on record concerning the item. According to Edison, the outcome of this decision process depends largely on the standard applied and the procedure by which the standard is applied. Edison states that each party who actively participated in this proceeding has urged the application of a standard which reflects that party's own understanding of what is meant by the abstract term "reasonableness".

In principle Edison states that it agrees that the Commission should provide further guidance with respect to the

standard by which the reasonableness of utility fuel and energy expenses is to be judged. However, Edison contends that it is doubtful that a "simple statement of law and sound public policy" can be expounded without being at least somewhat abstract and general.

Edison believes that a fairly broad reasonableness standard should be adopted by the Commission. According to Edison, a broad standard can still provide the utility with a useful benchmark against which it can prepare an adequate reasonableness presentation, and can still be applicable to the full variety of expense items, provided the standard is applied in a consistent and logical manner.

Furthermore, Edison believes that the Commission's past expressions of a reasonableness standard are based on sound public policy, and that these past expressions can be synthesized into a sufficiently clear rule to satisfy the needs of the utility, the staff, and ratepayers alike.

As such a standard Edison offers the following for adoption in this and future ECAC reasonableness reviews:

> Without the benefit of hindsight, and based upon consideration of the relevant circumstances that were known or reasonably should have been known (or might have been known or should have been known upon reasonable inquiry) by management at the time the decision was made or action was taken or not taken, was management's decision, action, or inaction reasonable?

Edison states that its proposed standard begins with a limitation: the utility's actions must not be reviewed with the benefit of hindsight. According to Edison, this limitation is not new to regulatory law as propounded by this Commission, citing a recent decision involving oil exchanges negotiated by San Diego Gas & Electric Company (SDG&E), in which the Commission clearly indicated its agreement with this limitation.

Edison states that the inclusion in Edison's proposed standard of the requirement that reasonableness reviews take into account the relevant circumstances that were known or reasonably should have been known by management at the time the action was taken is clearly supportable. According to Edison, nowhere has "relevant circumstances" been limited to economic considerations alone. Edison states that any relevant facts which materially impacted the decision made or action taken by the utility are potentially important aspects of reasonableness. Edison argues that the Commission should remain consistent with its prior positions and expressly adopt (1) avoidance of hindsight, and (2) consideration of all relevant circumstances, as integral parts of the Commission's reasonableness standard for application in this and future reasonableness reviews.

Edison states that a further significant qualification to Edison's proposed standard is contained in the words "reasonable inquiry". Edison claims that it does not dispute that utility management has a duty to become apprised of information that may materially impact their decisions or actions. Edison feels, however, that some limit must be placed on the degree of effort that management is expected to expend in becoming and staying informed. According to Edison, this is an extension of the principle that reasonableness must be viewed in light of all relevant circumstances. Edison argues that if one circumstance is that the expense, time required, or difficulty of obtaining information was prohibitive, then a reasonable inquiry need not include such information.

Edison states that the analytical framework by which this proposed standard should be applied involves identification of the specific event that directly resulted in the incurrence of additional energy expense and the development of a simple time-line with the event in question at the center.

According to Edison, the importance of the time-line is that it serves as a means of enforcing the prohibition against the use of hindsight. Each action or decision prior to the event can be placed in chronological order on the time-line. Circumstances which predate or coincide with a decision or action are relevant to the review of that decision or action; later circumstances are not.

Edison states that the time-line more accurately reflects reality than does a free-form, unstructured analysis. Edison observes that the decisions made by utility management take place on the continuum of time, and reconstructing that continuum provides the only perspective which truly reflects the circumstances under which those decisions were made.

Edison claims that the adoption of administrative controls designed to ensure the removal of temporary equipment modifications is the first action or decision on Edison's part under review with regard to the diesel generator fire. Edison observes that the NRC conducted an investigation following the fire, the thrust of which:

> "...was to review the processes that were in place and determine if these processes resulted in appropriate actions being taken and were followed."

The NRC did not issue any citations or note any items of noncompliance as a result of this investigation, from which Edison concludes that, in the NRC's opinion, Edison's administrative controls were satisfactory and were being followed.

Edison observes that every decision, by definition, involves a choice of one alternative from at least two, and frequently many, available alternatives. Hindsight invariably commences at the point in time when the result of the choice becomes known, looks back in time, and concludes that a different alternative would have been best. It also connotes the fixing of blame in cases where, for one reason or another, a decision or judgment did not work

out. According to Edison, the NRC investigation was clearly not a search for the best of a number of alternatives, nor was it an attempt to fix blame. It was simply an effort to determine if Edison's controls "resulted in appropriate actions being taken", and were being followed by Edison.

Edison states that even without the benefit of hindsight, the review of Edison's administrative controls still involves a consideration of the alternatives reasonably known or available - not for the purpose of retrospectively selecting the best - but only for the purpose of establishing that the choice was reasonable in light of all of the relevant circumstances as of the time the choice was made.

Edison states that the only alternative available regarding the adoption of administrative controls would have been to make them more stringent at the time they were adopted. However, Edison claims that its controls were already sufficiently stringent to result in the removal (with one exception) of all of the many pieces of temporary test equipment installed during start-up before the diesel was placed in service. Since the control procedures involved "...many, many steps...," Edison claims that the alternative of making the procedure more stringent would certainly have resulted in the addition of even more steps and thus become even more burdensome. According to Edison, these facts strongly suggest that in controlling the temporary installations, the many steps in Edison's administrative controls were already near the point of diminishing returns - that is, significantly burdensome additional steps would not necessarily have resulted in further improvement in control. Edison argues that the circumstances that prevailed when Edison's procedures were adopted, and the inference that may be fairly drawn from those circumstances clearly establish that Edison's conduct with respect to those procedures was reasonable at the time

absent the benefit of hindsight. Edison contends that there is no evidence in the record which suggests that Edison failed to implement or adhere satisfactorily to procedures for the control of temporary test equipments.

According to Edison, the second action or decision to be reviewed is the installation of the lube oil pressure gauge and associated hardware. Edison states that the installation was properly designed and executed for its intended purpose. Edison argues that the assembly mistakenly being left in place takes place later in the time-line, and, being hindsight, cannot be considered with respect to Edison's conduct in installing the gauge in the first place. Edison claims that the only conclusion that can be drawn from the record is that Edison acted reasonably in installing the assembly in question.

According to Edison, the next item for review is a nonaction: that is, the failure to remove the gauge. This has already been acknowledged by Edison to have been a mistake. However, Edison contends that one mistake cannot be equated to unreasonableness.

According to Edison, the period of time between the failure to remove the gauge and the occurrence of the fire was one in which regular visual inspections, which included watching for fuel or oil leaks or other abnormal conditions, took place. Edison claims that because these routine operational checks did not result in the removal of the gauge does not constitute further error on Edison's part. According to Edison, the single error, failure to remove the gauge at the completion of start-up, resulted in various consequences, like ripples in a pond. Edison observes that the station operating staff that took over following start-up would accept the presence of the gauge as if it were legitimately there. Edison characterizes this as one of the ripples, a logical extension or consequence of the single mistake. Edison argues that it does not

constitute another mistake on Edison's part, since the gauge was relatively small, was not clearly visible from normal viewing locations, and was one of a number of pressure gauges installed on a large and complex piece of equipment. Edison argues that until the oil leak was first discovered, Edison's conduct was entirely reasonable under the circumstances existing at the time.

Edison contends that its personnel continued to conduct themselves in a reasonable fashion upon the discovery of the oil leak. According to Edison, oil leaking from the gauge fitting would not have been considered unusual. It was a very small leak. Upon discovery, a maintenance order was promptly written out. A maintenance person was dispatched to the diesel generator following issuance of the maintenance order but could not find the source of the leak because without the diesel running, there was no pressure in the system. Hydrostatic testing is not standard practice unless the pressure boundary has been disturbed which was not the case in this instance. At the next routine operation of the diesel generator, an operator, attempting to locate the source of the leak, climbed into the area where the gauge was located and touched the gauge, at which point the fitting ruptured.

Edison claims that every step taken by Edison following discovery of the leak was in accordance with standard operating practice and demonstrated an intent to investigate and repair the source of the leak in an expeditious manner consistent with the facts known to Edison's operating personnel at the time. Edison argues that this was clearly reasonable conduct which is not challenged by any evidence in this record.

Edison argues that from the moment the fire broke out, Edison's actions were so exemplary as to compel the conclusion that Edison's futher actions were reasonable. According to Edison, NRC and staff have praised Edison's efforts at quickly extinguishing the fire and thereby minimizing the damage.

Thus, Edison concludes that avoiding hindsight and considering all relevant circumstances known (or which reasonably ought to have been known) to Edison at the times in question demonstrates that, aside from one single error, Edison at all times acted in a reasonable manner. Edison argues that one error should not result in a finding that Edison acted unreasonably.

Edison argues that past decisions of the Commission have clearly established that its standard of reasonableness does not require a utility to operate its plants without ever making an error. Edison observes that in the decision respecting the diesel generator fire outage, in Edison's 1981 ECAC reasonableness review, this Commission stated:

> "Our regulatory standard for prudent utility behavior does not require the utility to operate its plants without mishap or..."

Edison argues that similarly, in the decision in Pacific Gas & Electric Company's (PG&E) 1980 reasonableness review, this Commission addressed TURN's recommended disallowance based upon the allegation that PG&E failed to take advantage of available economy energy during a two-day period in July 1980, stating:

> "PG&E...shows that its failure to purchase economy energy from Edison during the period in 1980 was the result of a mistake on the part of its operating personnel and that a new system has been installed to prevent such mistakes in the future. We agree with PG&E that such mistakes cannot be characterized as imprudent management."

Edison states that these decisions express a rule, the soundness of which no reasonable person would dispute: Imposing a standard of conduct which requires perfection is patently unjust because the standard ultimately can never be attained.

Staff argues that the facts support a finding that Edison failed to observe an appropriate standard of care in the

circumstances and, therefore, that the incremental fuel costs associated with the fire should be disallowed.

According to staff, Edison was responsible for the installation and subsequent failure to remove the unauthorized part, which action caused the fire. Thus, Edison should be held accountable for the replacement fuel costs. However, in recognition of the company's quick response after the fire, and the company's repair efforts which resulted in SONGS 1 returning to service in 32 days, staff does not recommend that any additional penalty be assessed against the company. While the staff witness declined to characterize the error as imprudence, he, nevertheless, supported his recommendation by referencing the "larger picture" that he felt should be recognized in this instance, pointing out that the diesel generator might have been needed at a time "when SONGS 1 had a problem." In effect, the witness stated that the ordinary standard of prudence should not be applied - or, in other words, a higher standard of care should be applied in determining imprudence. Legal Division concurs in that recommendation.

Staff states that whether an action is "reasonable", "prudent", or "negligent" is necessarily a function of the circumstances affecting that action.

According to staff, generally, "prudence" and "imprudence" have to do with caution, skill, or sagacity in the management of business affairs, provident use of resources, etc. Like "negligence", they address the reasonableness of conduct. Similarly, a reasonable standard of care is related to the level of associated risks and potential costs.

Staff claims that the required standard of care in this instance is set by NRC. Staff states that the standard not being met in a single instance directly caused a 32-day outage and resulted in additional fuel costs of approximately $14,194,000. According to

staff, NRC's safety standards demand that two standby diesel generators be operational before SONGS 1 unit can be operated. Staff claims that circumstances have proven that at any time within three years prior to the July 1981 fire, diesel generator No. 1 was incapable of operating for a further 72 hours without producing an oil leak, the occurrence of which would result in fire.

Staff contends that to argue, as Edison seems to, that its performance should be judged as if the diesel generators were not "safety related" equipment is absured. Staff argues that the governing rules prescribe the standard commensurate with the risks involved. Staff states that the rules are safety oriented, but not only do the rules determine the course of reasonable conduct relative to this event, it is precisely because Edison did not meet the safety rules that the fire occurred.

Staff observes that Edison emphasizes that the instrumentation was intended to be temporary and as such did not have to meet strict design and installation standards. However, staff contends that from the moment that Edison's start-up crew walked away from generator No. 1, by that act of omission, the pressure gauge became an unauthorized permanent installation, despite all of the rules and standards designed specifically to avoid such installations.

Staff observes that Edison notes that a number of temporary test rigs were installed and removed from diesel generator No. 1 and that, during start-up testing of any equipment, test installations are installed and removed on an ongoing basis as was the case with the Unit 1 diesels. Staff argues that the risks and potential costs involved are such that it would be difficult to contemplate circumstances in which a higher standard of care would be required.

Staff observes that Edison suggests that by assessing fuel costs against the company, the Commission would be applying a higher standard of care than did NRC concerning the same event. Staff states that its recommendation pertained only to a determination as

to who should pay the fuel costs, the company or the ratepayer. It not recommended that a penalty be imposed. Staff concludes that whether Edison should pay the fuel costs depends upon whether the company's conduct in a given set of circumstances should be characterized as imprudent. Staff states that by ordinary rules of conduct an act of omission in a new and complex situation may not be imprudent, but ordinary rules of conduct did not apply here.

TURN states that in the earlier proceeding, Edison's principal defense was an argument distinguishing NRC's "stringent" standards for safety-related equipment from the more liberal standards of "ordinary" good equipment maintenance. TURN states that Edison asserted that a failure to have "authorized" equipment in place may have been a technical violation of some NRC directive, but it certainly was not proof of negligent operation of the facility.

TURN argues that Edison's arguments of last year may now be dismissed out of hand. According to TURN, the regulation of the NRC, whether overly stringent or not, has nothing to do with the standard of care to which Edison should be held in this case. It was negligent to leave a brass fitting on the lube oil system of a diesel generator for five years. This would be true even if the diesel generator were not located at a nuclear facility, but for example in the basement of a warehouse. TURN asks if the failure of the brass fitting had caused a fire in the warehouse could Edison have defended itself by asserting that the fitting conformed to <u>any</u> applicable standards for a permanent installation?

TURN observes that Edison has admitted that it committed an error when it left the temporary instrumentaton in place for five years. Nevertheless, Edison asks that the ratepayers absorb the financial consequences of the fire.

TURN urges the Commission to reject what it calls Edison's excuses and sophistry and argues that Edison's actions should be judged by this general legal standard: electric utility fuel costs resulting from the negligent maintenance or operation of utility plant are unreasonable. Because a nuclear generating station is involved here, TURN argues that the definition of negligence must recognize that an even higher standard of care will be applied.

TURN states that it should also be pointed out that the temporary equipment was not installed by the operating personnel at SONGS 1, but by a different team whose members would typically leave the plant or go on to some other backfit job. Since they were the ones who were responsible for removing all the temporary installations, TURN argues that management should be charged with the knowledge that normal operating personnel would not necessarily recognize temporary equipment that might have been inadvertently left in place.

Regarding Edison's reliance on the statement that this Commission' standard does not require the utility to operate its plants without mishap or error, TURN states that first, one must distinguish between minor, relatively inconsequential "errors" that may be expected to occur in any large organization, and serious, very costly ones such as that now under review. TURN notes that it has taken the position that the Commission should have disallowed the costs of the missed economy energy transactions in the PG&E cited by Edison, but observes that one could rationally conclude, as the Commission apparently did in that case, that a disallowance would be inappropriate because only a few hundred thousand dollars were involved and because the negligence was ascribed to the actions of a dispatcher who failed to follow clear and long-standing directives.

TURN contends that one must contrast that situation with the one now before us: a nuclear power plant, the operation of which requires constant vigiliance and painstaking management oversight;

the negligence: an unauthorized and structually inappropriate installation left in place for five years; the result: an outage costing over $14 million in replacement power costs alone. The Commission asks whether on these facts would a disallowance really be, as Edison argues, the imposition of a standard of conduct which requires perfection?

Further, TURN observes that Edison has argued that only upon a showing of management imprudence can a disallowance properly be ordered. TURN states that obviously there are some factual situations in which it would be inappropriate to hold Edison's shareholders responsible for the actions of the company's employees. According to TURN, the clearest cases would be those covered by the exceptions to the doctrine of respondeat superior in tort law. TURN states there are other cases, however, lying in a gray area formed by the divergence of the Commission's "regulatory law" from the strict application of the traditional tort doctrines, and suggests that the case of the PG&E dispatcher who failed to make the economy energy transaction falls into this gray area. However, TURN argues that Edison cannot hide behind the excuse of employee - as opposed to management - error.

TURN contends that this error was too big and its consequences too severe to be grouped fairly with those day-to-day mistakes that one might expect to routinely occur in a large enterprise with many employees. TURN warns that Edison's notion of management imprudence virtually guarantees that no disallowance will ever be ordered, for the Commission or other parties would have to prove that disputed costs were incurred as the result of the intentional torts, negligence (with scienter), or willful recklessness of management.

Edison responds that no basis is provided in the staff report or in the record to support the conclusion that Edison should be held accountable for the cost associated with the fire, other than

the one error that Edison committed. According to Edison, the record is devoid of any evidence that Edison at any time acted in an unreasonable manner in design, installation, testing, or use of the diesel generator. Edison observes that the Commission staff nevertheless argues that Edison committed one error by virtue of its failure to remove the lube oil pressure instrument assembly and despite Edison's otherwise reasonable actions, proposes that replacement energy cost associated with the fire should be disallowed.

Edison argues that staff's standard should be rejected for the following reasons: (1) it requires the utility to operate its plants perfectly, without error or mishap, contrary to prior Commission decisions and common sense; and (2) it effectively changes the standard by which reasonableness has been conventionally judged, thereby "changing the rules of the game after play has commenced." Edison states that assuming staff's standard involves an assignment of risk between ratepayer and shareholder, the staff's standard should be rejected for future application since such assignment is unnecessary in light of recent changes implemented with respect to AER.

Edison argues that staff's proposed standard is also objectionable because it has no basis in any of the Commission's prior expressions of what the reasonableness standard has been. According to Edison, staff's recommendation would totally ignore the prudence or reasonableness of the utility in reaching a decision on disallowance of fuel costs. Edison claims that staff's recommendation on this issue bears no relation to law or to common sense. Edison states that staff would change the rule by which the utility has endeavored to abide, after actions have been taken and decisions made in accordance with that rule. Edison contends that this amounts to ex post facto punishment and should be dismissed from serious consideration in this proceeding.

Edison argues that staff also appears to be basing its recommended standard of perfection upon some theory of the reassignment of risk between Edison's shareholders and ratepayers. Edison states that any such assignments cannot fairly be made several years after the event in question without prior notice to the utility. Further, Edison contends that this theory is without merit for future application to reasonableness reviews because the Commission has already examined the risk relationships inherent in the ECAC and has made a significant modification to those relationships in D.82-12-105, issued December 22, 1982, in OII 82-04-02.

In D.82-12-105, the Commission increased the percentage of fuel expenses to be recovered under the AER from 2% to 10%. That modification results in shareholders bearing 10% of any unforecast changes in fuel expenses, which would include 10% of the replacement energy expenses resulting from any unforecast plant outages.

According to Edison, this modification was made to provide Edison clear and more effective incentives to manage its fuel costs efficiently. Edison states that certain other changes were made to the ECAC procedure, including limitation of the total risk placed upon Edison's shareholders as a result of these modifications. Edison observes that this Commission stated that "[t]his realignment of the risks related to fuel expenses should not significantly affect Edison cost of capital. Shareholders and ratepayers will have some of their fuel-related risks increased, and some decreased. We believe the result is an appropriate balance of risks and opportunities." Edison argues that because modification was made following extensive hearings in which staff participated fully, and was made without resort to material changes in the reasonableness standard as it existed then and now, it is additional proof that staff's proposed standard in the present proceeding is totally without merit.

In its opening brief, Edison argued that TURN's recommended standard is clearly an application of the tort principle of negligence per se, in which TURN is apparently asking the Commission to interpret what it characterizes as "applicable codes and standards" to be the equivalent of a legislative determination of a standard for nuclear power plant operation, and to find that deviation from this allegedly applicable standard is conclusive evidence that Edison acted unreasonably with respect to the circumstances which lead to the SONGS 1 diesel generator fire.

Edison argues that TURN's recommended reasonableness standard, based on the theory of negligence per se, should not be adopted for two reasons: (1) it would not promote sound public policy, and (2) it is not applicable to the facts in this case. According to Edison, the Commission should decline to apply a negligence per se standard in this administrative proceeding.

In its reply brief Edison contends that TURN's arguments are inconsistent, as demonstrated by TURN's suggestion that "applicable codes" are irrelevant.

Edison states that it fully agrees that NRC regulations are not the benchmarks of reasonableness with respect to energy expense; they were never intended to serve as such benchmarks in the first place. Edison argues that this sudden expansion of position (from negligence per se based upon an unspecified regulation to conventional negligence) throws into stark relief the manner in which Edison contends that TURN selects the most useful theory of the moment.

Edison states that TURN's "last chance" recommendation is the application of common law negligence. Edison argues that the same reasons that Edison gave against the use of the negligence per se doctrine apply with equal (indeed, greater) force with respect to the use of common law negligence as a standard in these proceedings. Edison contends that TURN is selectively applying bits and pieces of

the common law of negligence to the degree that such analogy benefits their position, ignoring the other features of civil litigation of which those bits and pieces are integral parts. Edison suggests that perhaps most important for the Commission to recognize is that negligence law is founded on the basis that the burden of proof lies with the plaintiff. Edison warns that any selective application of a part of the law of negligence to this proceeding artificially increases what is already clearly a high burden of proof.

3. Discussion

Resolution of this issue is not nearly so difficult as suggested by Edison's contentions. The underlying policy question is whether ratepayers or shareholders should absorb the financial consequences of the diesel fire. In this case, based on analysis of all the circumstances, we have determined that it is inappropriate, based on traditional ratemaking principles, to allow ECAC recovery of the replacement fuel costs attributable to the diesel fire.

We need not find that Edison was negligent in order to reach this result. Indeed it is probably unwise to inject the concept of negligence, which is so closely identified as a basis for tort liability, into the ratemaking process, where standards for allowance or disallowance are already adequately defined to resolve reasonableness issues. In reasonableness reviews utilities bear the burden of proving the reasonableness of their fuel policies and so justify recovery of their fuel expenses. As we indicated in D.92496 in OII 56, in commencing the ECAC procedure:

> "of course, the burden of proof is on the utility applicant to establish the reasonableness of energy expenses sought to be recovered through ECAC. We expect a substantial affirmative showing by each utility with percipient witnesses in support of all elements of its application, including fuel costs and plant reliability." (D.92496, 4 CPUC 2d 693, 701.)

We have further refined this standard in subsequent ECAC proceedings. In D.83-04-089, a proceeding involving PG&E's fuel costs, we stated:

> "***Unless PG&E meets the burden of proving, with clear and convincing evidence, the reasonableness of all the expenses it seeks to have reflected in rate adjustments, those costs will be disallowed (In re Southern Counties Gas Co., 51 CPUC 533 (1952))." (D.83-04-089, Mimeo. p. 2.)

A brief review of the facts established in this record leads inexorably to the conclusion that Edison's conduct, resulting in the fire and in the replacement fuel costs, does not comport with our rigorous reasonableness standard. The instrument that failed was intended to be temporary. Consequently it was not manufactured to the standard of a permanent fixture. Specifically, it contained a brass fitting that was not suitable for permanent use. It was the failure of that brass fitting that caused the leak that caused the fire that caused the outage that caused the replacement fuel costs to be incurred.

At the time that Edison installed this instrument it had the opportunity to choose the quality of the material that it would use. When it chose material suitable for temporary use, it obligated itself to remove all such instruments within a reasonable time. Edison's own conduct indicates that it understood itself to be so obligated, since it did remove hundreds of others that were installed. Edison's failure either to use material suitable for permanent installation or to remove the instrument was unreasonable.

The evidence also establishes that Edison's operating personnel would be unable to distinguish this temporary instrument from permanent instruments. Thus the testing personnel's failure to remove the instrument could not be cured by the operating personnel's subsequent discovery of the error and corrective action. Under these circumstances the testing personnel were obligated to exercise a greater amount of oversight than otherwise, perhaps resorting to such measures as counting the instruments.

It would be unconscionable from a regulatory perspective to reward such imprudent activity by passing the resultant costs through to ratepayers.

Edison takes great pride in the manner in which it responded to the fire, repaired the generator, and restored SONGS 1 to service. Although this pride may be warranted, the conduct does not affect Edison's liability. Rather, it mitigates Edison's own exposure for replacement fuel costs.

Having now determined that the replacement fuel costs resulting from the diesel fire cannot be passed through to Edison's ratepayers, we should note that the impact of this disallowance on SDG&E has yet to be addressed by this Commission. At the first Prehearing Conference in SDG&E's last reasonableness proceeding (A.83-07-016) the ALJ requested input from the parties as to how such a disallowance for Edison would impact SDG&E, due to its 20% share of SONGS 1. (TR Vol PHC 5: 13-27.) Since all non-Tesoro related reasonableness issues have been deferred to SDG&E's current ECAC proceeding (A.84-07-027), we expect the parties will analyze this issue in the current proceeding, with specific reference to the appropriate ratemaking treatment of replacement fuel costs incurred by SDG&E during the period of the SONGS 1 outage, in view of this disallowance.

C. Coal Incentive Procedure Issues

1. Mohave Heat Rate

The coal plant incentive procedure applicable to Edison's Mohave and Four Corners generating stations was adopted by the Commission in D.93363, issued July 22, 1981, in Edison's ECAC A.59499.

As a part of the coal plant incentive procedure, D.93363 adopted a gross heat rate standard applicable to Mohave of 10,250 Btu/kilowatt-hour (kWh) ("Original Gross Heat Rate Standard") with a Null Zone of ± 200 Btu/kWh and a maximum limit of ± 1,000 Btu/kWh. This original gross heat rate standard was a part of the

scheme for coal plant incentive procedure developed by a consultant, System Development Corporation (SDC or the consultant), which was essentially adopted by the Commission intact in D.93363.

Edison stated in the hearings held in A.59499, that the original gross heat rate standard proposed by SDC for Mohave would need to be validated to take into consideration the current limitations on the units, and to verify Mohave's design heat rate, because design heat rate curves were utilized in developing the original gross heat rate standard. SDC concurred and so recommended in its report in that proceeding. The report, entitled Four Corners Generating Station Units 4 and 5, Mohave Generating Station Units 1 and 2, Standards of Performance Study, Final Report, dated June 29, 1980, stated at page 1-4: "Since the design gross heat rate curves for Mohave have never been verified, it is recommended that a performance test be conducted and the GHR be adjusted accordingly."

The recommended test was conducted in November 1980, but resulted in inconclusive findings. The test, conducted by Edison and monitored by SDC, produced six heat rate test run results ranging from 10,568 to 11,727 Btu/kWh, all of which exceed the original gross heat rate standard of 10,250 Btu/kWh. SDC, in its report of this test, entitled Mohave Generating Station Units 1 and 2, Standards of Performance Study, Heat Rate Performance Test-Report, dated May 1, 1981, concluded that the principal difficulty with the test was the inability to accurately measure fuel flow in the slurry system over a short time period and recommended a further long-term study.

In its petition for rehearing and/or modification of D.93363, filed August 20, 1981, Edison requested that the Commission recognize that the gross heat rate standard to be applied at Mohave should be reviewed against the results of the long-term performance study recommended by SDC. The Commission's D.82-03-053 modifying D.93363 provided an affirmative ruling on this request and Edison contracted with SDC to conduct a long-term heat rate performance study at Mohave.

Meanwhile, in March 1982, Edison filed A.82-03-04 which included the Reasonableness of Operation Report for energy expenses incurred in 1981. This report included results of 1981 performance at Mohave. In 1981, the recorded gross heat rate for Mohave Units 1 and 2 was 10,917 Btu/kWh. This was above the original heat rate standard, outside the Null Zone, and within the maximum limits. Because of the comment in D.82-03-053 that the consultants' report on the heat rate monitoring effort would be considered in the 1982 ECAC reasonableness review, Edison again requested that application of any heat rate standard be deferred at Mohave until the consultants' report was submitted and the original gross heat rate standard was modified or verified.

The Commission rendered D.83-01-053 in A.82-03-04 on January 19, 1983 and rejected Edison's request to defer application of the heat rate standard and imposed a penalty of $4,319,000 due to the performance of Mohave during 1981. This penalty was assessed in accordance with the coal plant incentive procedure and was based upon the original gross heat rate standard. However, the Commission, in its Conclusions of Law, found:

> "4. If the long term study of a gross heat rate standard for the Mohave units shows the adopted standard to be clearly unreasonable, we will consider adjustment of the penalty imposed in this order."

The Commission thus expressly recognized that if the original gross heat rate standard for Mohave was shown to be clearly unreasonable, then the Commission would consider adjusting the 1981 penalty at Mohave.

SDC began the heat rate performance study in early 1982 and continued through to the end of the year. A copy of the SDC report on the completed study, entitled Mohave Generating Station Units 1 and 2 Standard of Performance Study, 1982 Heat Rate Performance Monitoring Study Report, dated February 4, 1983, was included in

this proceeding as Exhibit 21. The principal conclusion of the report was that the original heat rate standard of 10,250 Btu/kWh should be changed to 10,550 Btu/kWh (hereinafter referred to as the revised gross heat rate standard); the Null Zone range should be ± 200 Btu/kWh and the maximum limits should be 9,615 and 11,575 Btu/kWh.

Edison requested in the current proceeding that, based upon the foregoing study, the original gross heat rate standard be modified as recommended by SDC. As stated on page 1-6 of Exhibit 21, "the GHR [Gross Heat Rate] values established in the 1980 Standards of Performance Study should be changed as indicated because these values are an unreasonable representation of Mohave's GHR current capability."

In its application in this proceeding, Edison requested that the penalty assessed for 1981 performance at Mohave be adjusted to reflect the revised gross heat rate standard developed in Exhibit 21 and described above. This would result in an adjustment (i.e. reduction) in the 1981 penalty of $1,000,000 plus interest.

Edison requested this adjustment be made on the basis that it would be unfair to compare recorded unit operation to the original gross heat rate standard since that theoretically based standard of 10,250 Btu/kWh was based upon design gross heat rate curves which have never been verified and did not take into account current plant conditions.

While staff agreed that the revised gross heat rate standard should apply to 1982 and future operations at Mohave, the staff opposed Edison's request that the 1981 penalty for Mohave operating results be adjusted.

The parties differ over whether the result of the study "shows the adopted standard to be clearly unreasonable," and whether an adjustment to the penalty is appropriate.

Staff states that the proposed gross heat rate standard, 10,550 Btu, is 300 Btu/kWh higher than the existing standard. Staff points out that the proposed 300 Btu change is less than the full range of the Null Zone (400 Btu) provided in the incentive procedure. Since the Null Zone encompasses a range of 400 Btu, and is intended to avoid adjustments (penalties or rewards) based on small variations in heat rate performance, staff argues that 400 Btu may be construed as the adopted standard of materiality. According to staff, it follows, therefore, if the difference between two standards is immaterial, then neither is "clearly unreasonable" as to the other. Staff states that strictly interpreted, D.83-01-053 leaves open only the question whether the existing gross heat rate standard is "clearly unreasonable."

Edison states that whether or not the change between the original gross heat rate standard and the revised heat rate standard is small and therefore not unreasonable is in the eye of the beholder. According to Edison, the difference in the penalty assessed in 1981 if the revised heat rate standard was used to recalculate that penalty would be a decrease of approximately $1 million.

Edison observes that the staff witness claimed the change between the original gross heat rate standard and the revised gross heat rate standard was immaterial based upon the 300 Btu/kWh change between the original gross heat rate standard and the revised gross heat rate standard being less than the full range of the original Null Zone of 400 Btu/kWh. Edison states that the revised gross heat rate standard is above the upper boundary of the original Null Zone, which Null Zone was developed in an attempt to represent the range within which the annual gross heat rate could be expected to occur 50% of the time. The revised gross heat rate standard therefore would have fallen outside tht Null Zone 50% of the time. Edison argues that this further demonstrates that the original gross heat rate standard was clearly unreasonable at the time it was developed.

This issue is of our own making, resulting from our use of the ambiguous term "clearly unreasonble." The parties have done a capable job of offering competing interpretations of our intention. We are persuaded that Edison's position has more merit.

The Null Zone does provide a useful standard of materiality. A deviation from the standard that exceeds the limit of the Null Zone is material, by definition. Materiality is a more meaningful basis for evaluating the change in the gross heat rate standard than "clearly unreasonable." Since the new standard falls outside the boundary of the earlier standard, including the Null Zone, the change in the standard is material and should be reflected in the calculation of the earlier penalty.

2. Qualitative Modifiers

a. Introduction

D.93363, adopting the coal plant incentive provision applicable to the Mohave and Four Corners coal plants, the Commission recognized that events might occur which would affect operational results at these plants but which should not be taken into account in calculating the coal plant incentive. These types of events were referred to as "qualitative modifiers" or "modifying events."

The Commission stated that such events must be raised on a case-by-case basis and that,

> "[a] heavy burden of proof will rest on the proponent of a 'modifying event' to show that the event was beyond the ability of management to control or foresee and that no remedial action could have been taken to mitigate the effect of the event."

In the current proceeding, Edison contended that several events that had occurred during 1982 and affected the operations of Mohave and Four Corners met the above-quoted criteria. These events and their impacts were as follows:

Event	Mohave Unit 1 (MWh)	Mohave Unit 2 (MWh)	Four Corners Unit 4 (MWh)	Four Corners Unit 5 (MWh)
Minimum load conditions				
a) SCE	1,018.0	674.2		
b) Salt River Project (SRP)	2,350.7	7,335.4		
Transmission line loading restrictions	2,318.5	2,743.9		
Storm-related transmission line tower failure	6,919.0	14,638.0		
Transformer/line loading constraints			11,866.0	1,446.0
Failure of hot reheat line piping elbow		121,619.0		
Flood in supplier's coal storage area			5,877.0	6,130.0
Coal supplier delivery equipment problems			312.0	
Rainfall impact on Btu content of coal			7,024.0	2,711.0
Baghouse installation			4,560.0	
Total	12,606.2	147,010.0	29,639.0	10,287.0

Under the coal plant incentive provision formula, these amounts of megawatt hour (MWh) could be added to recorded MWh and thus would adjust the reward or penalty associated with recorded operating performance at the coal plants. The impact of these events upon the reward Edison will receive based on 1982 operating performance at Mohave and Four Corners, using the price of the incremental fuel (gas) in the calculation, is to increase the reward from $6,599,429 to $7,409,000.

The following discussion describes each of these events, and why they were beyond Edison's control or ability to foresee and mitigate, in Edison's opinion.

b. Minimum Load Conditions

Minimum load conditions are those conditions where available generation or available resources, such as purchased power, exceed current loads. These conditions generally occur between low load hours of midnight and 6:00 a.m. Under such conditions it is Edison's generating practice policy to first reduce the highest priced generation, i.e. oil and gas, to the minimum possible level consistent with system security and reliability constraints. Then Edison reduces purchased power or output of base load resources depending upon price. That is, if purchased power is more expensive than Edison's coal units, Edison would reduce purchased power. If coal generation was more expensive, Edison would reduce coal generation.

The latter condition occurred on six separate days in 1982 when the kWh output of each of Edison's oil and gas units was reduced to minimum operational levels and purchased power was cheaper than Edison's coal generation. As a result, during these minimum load conditions, production from Edison's Mohave coal units was reduced below what the units were capable of achieving.

The result was an economic benefit to Edison's ratepayers in that total system costs were reduced. If Mohave output, at an average cost of approximately 12 mills/kWh, had not been reduced, Edison would have had to reduce an equivalent amount of purchased power priced at 5 mills/kWh. Hence, Mohave output was reduced so as to reduce the cost of Edison's customers by 7 mills/kWh, resulting in estimated fuel and purchased power savings of approximately $11,845 per hour. According to Edison, this action was not only a benefit to Edison's ratepayers, but also resulted from an

event beyond Edison's control: Edison system loads were so low that there were less costly resources available than Edison's Mohave coal plants.

Separate minimum load conditions also existed in 1982 for the Salt River Project (SRP), a 10% owner of the Mohave generating station. Under the owners' agreement, each participant owner has the right to do with its share of Mohave output as it sees fit. As an owner, then SRP can use its 10% share of Mohave output, sell any or part of it, or order that Mohave output be reduced by any part of their share. Thus, if at any time Mohave was capable of producing energy at a particular output, SRP could require that Mohave production be reduced by 10% of that output.

This condition would obviously impact the coal plant incentive calculation since that calculation is made based upon total Mohave output capability and not solely upon Edison's share of that output capacity. Edison states that any action taken by SRP which reduces Mohave output is within its right as an owner of the plant and is obviously outside Edison's control.

Edison claims that it does attempt to mitigate the impact of SRP decisions if it can. For example, when SRP does not need all or any of its share of Mohave generation, Edison states that it will purchase this output if it is made available to Edison for purchase and Edison can utilize it cost effectively. However, any decision to sell is SRP's and not Edison's. The qualitative modifiers associated with Mohave production for this event reflect the failure of one or both of those two conditions, either of which would prevent Edison from mitigating the impact upon Mohave production. Therefore, Edison argues that these events should be considered qualitative modifiers applicable to Mohave production during 1982.

c. Transmission Line Loading Restrictions

During 1982, Mohave production was reduced by 2,318.5 MWh at Unit 1 and 2,749.9 MWh at Unit 2 for a total of 4,062.4 MWh due to transmission line loading restrictions. These reductions took place during the July 28 to September 10, 1982 time period on a total of 11 different days. This time period was characterized by a high level of desert storms with associated lightning conditions. Since transmission lines are vulnerable to lightning strikes during these storm conditions, Edison instructed the plant operators to bring the total output of the Mohave units below 1,400 megawatt (MW) to safeguard against a unit trip in the event of a lightning strike and the loss of the Mohave-El Dorado line. This limit is based on the transfer capability of the Mohave-Lugo line. According to Edison, not reducing the output below the 1,400 MW level could have resulted in a unit trip, with a resultant loss of production, and an even greater loss of kWh output, while by reducing a total plant output below 1,400 MW, the possibility of unit trips is minimized. Hence, Edison claims the reductions were consistent with safe operation of the system and maximization of overall production.

Edison observes that this phenomenon affected the plant output during the July-September 1982 time frame when the output of the units was at the highest level ever recorded - above 80% capacity factor for each of the months of July, August, and September. This was a first in the plant's operating history. This high level of output resulted in many more hours when total Mohave output was above 1,400 MW, which, coupled with the high level of lightning activity, led to reductions in the plant output.

d. Storm-Related Transmission Line Tower Failure

During 1982, production from the Mohave units was also reduced due to loss of transmission lines resulting from storm-related action. Specifically, on December 22, 1982, 90-100 mph winds

were experienced in Pacific Gas and Electric Company's service area, which resulted in transmission tower failure on the Pacific Intertie. Within three seconds, 6,400 MW of generation/purchases had been lost to California, and the Western States Coordinating Council (WSCC) system islanded into four subsystems. This major disturbance resulted in unit trips at both the Mohave units, and it took approximately 8½ hours for restart of the first unit, with the second unit following later. Edison states that it should be noted that normal start-up times for the Mohave units are 9-12 hours from a hot start, and it is not feasible to simultaneously start up both units.

Following the transmission line failure, the sequence of events leading up to islanding of the WSCC system was a planned emergency operation of the interconnected power systems. Once the major interconnections are severed and generating units such as Mohave trip, it requires an orderly start-up sequence to balance loads, generation, and frequency among the subsystems.

Both Mohave Units 1 and 2 tripped off line at 6:29 p.m. With all station equipment at a standstill, a major effort was mounted to return the units to service. Both units could not be restarted at the same time due to the effort needed to check out and return each unit to service. Unit 1 was on line by 1:00 a.m. on December 23 and was stable by 4:00 a.m. Unit 2 was on line by 9:00 a.m. and stable by noon.

e. Transformer/Line Loading Constraints

In 1982, output at Four Corners was reduced by 11,866 MWh at Unit 4 and 1,466 MWh at Unit 5 for a total of 13,312 MWh of generation because of transformer loading limits at Four Corners and line loading limits on the Four Corners-Moenkopi line.

As explained by Edison, Four Corners is the primary collection point for power purchases by Edison and other California utilities from the Southwest utilities in Arizona, Colorado, Utah,

and New Mexico. With these power purchases, the interconnection system experiences a phenomenon known as loop flow, which tends to overload the line between Four Corners and Moenkopi.

Loop flow is defined as the difference between the actual flow on the line and the scheduled flow on the line. For example, the actual flow on the Pacific Intertie is 2,800 MW; however, if the maximum MW of load that could be scheduled without exeeding 2,800 MW is 1,500 MW, then the difference is labeled loop flow.

This is a phenomena which affects the interconnected system on the AC portions of Edison's lines. As the level and availability of purchased power has gone up the level of loop flow can be expected to increase. Thus, loop flow restricts transmission line capacity. When cheaper economy purchase power is available from the Southwest, Four Corners production is reduced to enable Edison to take in less expensive purchased power.

In addition, Unit 4 at Four Corners is connected on the 345 kilovolt (kV) side of the system and Unit 5 on the 500 kV side, with a step-up transformer in between. When Unit 5 is out on maintenance/outage, the Unit 4 power scheduled on the 345 kV system flows through the transformer onto the 500 kV Four Corners to Moenkopi line due to the lower impedance of this path. This requires reduction in output of Unit 4 to prevent overloading of the transformer.

In 1982 Edison purchased a record 5,727 million kWh of power from the Southwest, a large portion of which came in from the Four Corners area. Not reducing the Four Corners output during the line and transformer overloads would have meant a substantial reduction in purchased power, to the detriment of the ratepayer.

f. Failure of Hot Reheat Line Piping Elbow

During 1982, output at Mohave Unit 2 was reduced by 121,619 MWh due to failure of two hot reheat line piping elbows. This represents 61% of the total generation loss due to proposed qualitative modifiers at both Mohave and Four Corners. These failures were determined to have been the result of generic pipe fabrication problems. The failure investigation in 1982 determined that all applicable codes and standards were met when the hot reheat piping elbows were fabricated. The mode of failure was cracking in the weld zone. The weld failure was attributed to the presence of impurities in the weld zone. The metallurgical investigation indicated a high probability that the source of the impurities was the weld wire. Whether the fabricator could have known of or protected the weld wire from impurities is highly speculative.

g. Flood in Supplier's Coal Storage Area

During 1982, a severe rainstorm on July 26 resulted in a flood in the coal supplier's coal storage area preventing the supplier from providing Four Corners with coal at a sufficient rate to maintain load to the company's coal conveyor system. As a result, generation was curtailed for about 18 hours, resulting in a loss of 5,877 MWh of production at Four Corners. Edison observes that this event was clearly an "Act of God." Additionally, it was outside Edison's control since, as an "Act of God" the force majeure provisions of the Four Corners Coal Supply Agreement excused performance on the part of the supplier.

h. Rainfall Impact on Btu Content of Coal

Production at Four Corners was also reduced due to an unusual amount of rainfall from late July through October of 1982. This adversely affected the Btu content of the coal supply by increasing the moisture content of the coal from a nominal range of 10 to 11% to a range of 14 to 15%. The increased moisture in the

fuel requires additional heat to evaporate excess water. From an operational viewpoint, the coal experienced a reduced heat content. Therefore, in order to generate a given amount of heat, and therefore kWh, more coal is required than if the coal contained less moisture. Operations are required to feed more coal to maintain the same generation. Thus, as a result of this higher moisture content in the coal, coal feeding equipment was operating at maximum level and higher generating output could not be sustained.

i. Baghouse Installations

During 1982, 4,560 MWh of generation at Four Corners was lost due to start-up testing of new baghouses. Environmental requirements require testing at various load levels. This prevented generation at higher loads for short periods of time. The baghouses were installed at the direction of the State of New Mexico.

j. Contentions of the Parties

Staff accepts only the baghouse installations as a suitable qualitative modifier. Regarding the remainder, staff claims generally to have received insufficient information to perform the necessary evaluation.

Edison observes that the Commission has stated clearly that the utility bears a heavy burden of proof to show an event was beyond the control of management or unforeseeable and that no remedial action could have been taken to mitigate the effect of the event in order to justify qualitative modifier proposed by the utility.

In attempting to present events it claimed as qualitative modifiers to the Commission, Edison states that it attempted to briefly and concisely outline the nature of these events in its Reasonableness Report. According to Edison, following receipt of this report, the staff requested and received additional detail, through meetings and conversations with Edison personnel as well as formal data requests.

Edison states that it provided an overview of the events it claimed as qualitative modifiers in its filing in this proceeding. It answered numerous data requests of the staff on these

events. It provided testimony from two expert witnesses on these events. Edison observes that staff rejected these events, not necessarily because it disagreed with Edison on the merits but because of its claim that Edison did not provide sufficient documentation. Edison states that staff did not ask Edison specific questions to which Edison failed to respond but asked a general question to provide all data Edison thought relevant. Then staff testified that Edison failed to answer its specific questions which, in most cases, were first posed during the hearing. Edison complains that staff then claims that Edison has failed to meet its "burden of proof" because it had not answered these specific questions.

Edison states that whether the utility has met its burden of proof is not for the staff to decide, but is instead for the Commission to decide. Edison has submitted as exhibits in this proceeding data requests of staff and rsponses of Edison to those data requests.

Edison believes the record demonstrates that Edison more than met the heavy burden of proof applicable to it in justifying qualitative modifiers. Edison asks that if the Commission, after review of this record, disagrees then Edison requests the Commission to provide specific direction on how the utility is expected to meet its burden. Edison states that certainly, the utility can judge what it thinks relevant to establishing its case, but inquires, does the "burden of proof" mean that the utility is also expected to anticipate any questions that may arise from the staff or any party during the course of the hearings when the utility has not previously been asked those specific questions?

Edison observes that in D.93363 establishing the coal plant incentive procedure, the Commission stated that Edison or any other proponent of qualitative modifiers would face a heavy burden of proof to demonstrate that events reducing generation output at the Mohave or Four Corners Coal Plants were "beyond the ability of

management to control or foresee and that no remedial action could have been taken to mitigate the effect of the event."

Two qualitative modifiers asserted by Edison are the result of action taken by Edison's management. These modifiers are: 1) "minimum load conditions - SCE" and 2) "transformer/line loading constraints."

Both these events were the result of actions taken by Edison which resulted in lower production from Mohave and Four Corners, as has been described previously. However, the actions taken by management were to reduce the output of Mohave and/or Four Corners to enable Edison to reduce total costs to Edison's ratepayers.

With respect to the "minimum load conditions - SCE," Edison reduced output at its coal plants to enable Edison to utilize lower cost purchased power rather than coal generation to meet the load requirements. The minimum loads on Edison's system, and the attendant operational requirement that oil and gas plants be operated at minimum loads (rather than taken off line entirely) to meet anticipated load increases, prevented Edison from utilizing both the economy energy and coal generation. So Edison reasonably chose to utilize the lower cost source of energy, i.e., purchased power.

With respect to the transformer/line loading constraints, the physical conditions at Four Corners (i.e., available transmission line capacity and overloading of the transformer at Four Corners) again caused Edison to choose for economic reasons the lower cost purchased power and to reduce coal generation, because the system would not accommodate both.

Edison states that the purpose of the coal plant incentive procedure was to give Edison an incentive for efficient operation of its coal plants. By maximizing low cost coal generation, total system cost would be reduced. Thus, both Edison's and the ratepayers' interests were intended to be promoted by increased performance of the coal plants.

Edison argues that the coal plant performance incentive quickly becomes a perverse incentive when the utility is forced to ignore the incentive in order to comply with its own and the Commission's policy of providing energy at least cost to ratepayers. According to Edison, this perverse incentive will exist unless the Commission recognizes economic decisions which result in reduced output from Edison's coal plants as events that should adjust any calculated reward or penalty. Edison contends that these events should be accepted as qualitative modifiers.

Staff observes that, as noted in D.93363, a principal motivation for adoption of the CPI plan was the difficulty of evaluating the prudence of the company's management and operations of those plants. Regarding modifying events, this decision states that "little will have been gained if we merely shift the issue to a determination of those matters over which management could have exerted some control ... Such events must be raised on a case-by-case basis," (p. 25a).

In this proceeding, Edison has submitted 65 modifying events that occurred at Mohave alone. These accounted for 159,616.7 MWh of lost coal generation. In addition, the company has included some event or events that occurred at Four Corners, each and every month, from July through December 1982, which accounted for 39,926.0 MWh of lost coal generation. In sum total, the modifying events would add approximately $1,000,000 to the CPI realized by Edison for 1982 coal plant operations.

Staff states that the Commission, the company, and the staff were breaking new ground on these issues. D.93363 provides criteria for modifying events. Events will be decided on a case-by-case basis. A "heavy burden of proof" will rest on the proponent of a modifying event. Within the time available, the staff states it is unable to trace, and retrace covered ground. Staff argues that this

is added reason to require that the applicant makes its own case, and that the staff not be required to disprove approximately 100 relatively minor allowances.

According to staff, whether the Commission allows these modifying events appears to turn on whether the incentive payment should reward achievement or effort. Staff states that it is not clear how the ratepayer would benefit by also rewarding the company, for example, for an "Act of God." Staff suggests that if anything, the reward may be a disincentive to a fast return to production, since the reward would apply regardless of whether the plant were producing electricity.

Staff states that the "heavy burden of proof" discussed in D.93363 suggests that the staff would still be required to determine, first, whether the impact of each event could have been reduced and, secondly, whether the plant quickly returned to full production. Staff claims that in the present case, answers to the first question were impossible to determine based on the information provided to the staff for timely review. Staff asserts that to the extent that answers to these questions continue to be provided by narrative, "soft evidence," relative to events that require detailed technical evaluation, allowances for modifying events may provide little incentive to the company to quickly resume full coal production.

Staff observes that in D.93363, in referencing certain possible modifying events, SDC stated that the incentive system might be temporarily suspended or modified for the named modifying events. Many of the events named are in the "Act of God" category. As to these, at least, staff suggests that the system should be suspended rather than modified. Staff proposes that perhaps only those events that directly benefit the ratepayer or the public welfare, as some compensation for the lost production, should be allowed as add-on "modifying events." According to staff, the latter would include the new baghouse start-up at Four Corners, and reduced production to accommodate available economy purchased power.

Finally, as regards the criteria stated in D.93363, staff observes that most of the modifying events would fail a 90-day filing rule.

Edison observes that staff argues that perhaps modifying events that are the result of an "Act of God" should not be accepted in making a reward calculation, and that, if anything, the reward may be a disincentive to a fast return to production since the reward would apply regardless of whether or not the plants were producing electricity. Edison responds that if an unreasonable amount of time to return the plant to service were taken, the reward could be reduced accordingly. Edison argues that staff ignores the converse - in a penalty situation, these "Acts of God" operate to penalize the company unless they are accepted as qualitative modifiers. According to Edison the consultant who developed the coal plant performance procedure itself recommended that "Acts of God" be recognized as modifiers to allow for modification of the incentive procedure because of conditions beyond the control of the utility. Edison states that at a minimum the coal plant incentive procedure should operate in the same manner for both rewards and penalties. Otherwise, any attempt at fair or equitable treatment is lost.

Edison states that staff implies that because staff is unable to timely evaluate qualitative modifiers, and that what staff considers sufficient documentation has not been provided, these events should be disallowed. Edison contends that staff omits any reference to the merits of Edison's claims with respect to the qualitative modifiers. Edison states that it cannot agree that a meritorious claim should be disallowed because of staff's difficulty in reviewing the claim, or that documentation is entitled to more weight than sworn testimony of a witness.

Edison states that qualitative modifiers should be accepted or rejected on their merits and upon the information presented in the record. Edison argues that this is especially appropriate in the coal plant incentive procedure, since the intent

of that procedure was to reward or penalize based on performance, not based upon the number or form of records kept or presented.

k. Discussion

The coal plant incentive procedure is intended to provide Edison with an incentive to optimize production from its coal plants, while protecting the ratepayers' interest in lower rates. The qualitative modifiers concept provides a method for either adjusting the results of the procedure formula to reflect certain kinds of events that occurred during the year, or for suspending the procedure for the duration of the event. As we stated in D.93363, such modifying events are generally beyond the ability of management to control or foresee.

The implementation of the procedure is still in its early stages. Edison has proposed a number of different types of events for inclusion. Our decision should provide guidance for the parties in subsequent proceedings.

We are satisfied that the record supports a decision on the merits. We recognize that staff contends that Edison was unresponsive regarding data requests, but we find no basis for specific criticism of Edison's performance.

We start with the premise that the purpose of the procedure is to optimize production, not to maximize production. Thus, when system load conditions indicate that reduced production benefits the ratepayer, Edison should not be confronted with a situation where the ratepayer and shareholder interests conflict. Thus, minimum load conditions and transformer/line loading constraints qualify as modifying events. Since the ratepayers benefit when such conditions occur, Edison should be rewarded by sharing in the benefit. Although the overall impact of these modifiers on Edison's reward is de minimis, we want to eliminate any perverse incentives resulting from our adoption of the coal plant incentive procedure. Thus, the formula should be adjusted to reflect those events, as proposed by Edison.

Staff contends that Edison has failed to prove that oil and gas generation was reduced to the minimum before coal production was reduced. We are satisfied with Edison's showing. In fact, this showing points to a more basic problem with Edison's existing resource mix. Ideally, Edison should not have to back down its baseload coal plants in order to accept cheaper purchased power. As this problem may be significantly worse with SONGS 2 and 3 operational, we have serious concerns over whether Edison's resource mix is economically optimal. We understand that our staff is addressing this issue in Edison's current reasonableness review proceeding (A.84-02-11); and consequently we anticipate revisiting this issue in the near future with the benefit of a more highly developed record.

The remaining events cited by Edison are altogether different. The adopted target capacity factors of 61% for Mohave and 59% for Four Corners are far below the original design criteria and implicitly incorporate non-extraordinary adverse events such as those experienced in 1982. Thus, these modifiers are rejected. We note further that all these events, except the failure of the hot reheat line piping elbows, are truly de minimis; combined they would reduce Edison's reward by about $250,000. It was never our intent to burden the coal plant incentive program with evaluation of minutiae of this sort.

We observe that Edison has encountered some difficulty in complying with the provision in D.93363 requiring that it notify the Commission that it intends to claim a modifying event within 90 days of the occurrence of the event. Based on experience with the procedure, a six-month period seems more reasonable.

3. Mohave Coal Slurry Spill

Staff took exception to Edison's treatment of coal expenses incurred in a coal slurry spill at the Mohave generating station. As a result of this spill, approximately $77,000 was recorded in the

ECAC balancing account in 1982. Staff felt that since this coal expense was not incurred for the purpose of generating energy, it should not be recoverable as an ECAC expense, but instead should be addressed in a general rate case. Staff asserted that in a general rate case, the ratepayers are charged for insurance premiums to cover major losses, and stockholders should absorb the minor losses, and deductibles on insurance. Otherwise, the ratepayers are forced to shelter Edison for all risks and losses.

Edison states that staff is mistaken in its conclusion that the ratepayers shelter Edison for all risks and losses. According to Edison, the ECAC procedure has been designed to allow for rate recovery of all fuel-related expenses subject to the split between ECABF and AER recovery, which provides the risk allocation between ratepayers and shareholders and provides Edison with energy cost control incentives. Edison contends that expenses such as those incurred in connection with the coal spill are unforeseen, and therefore are part of the risk imposed on Edison shareholders by the 90%/10% (or 2%/98% in 1982) ECABF and AER split. Edison states that should the Commission conclude that this type of expense is not recoverable under the ECAC procedure, then the Commission should provide for recovery of this type of expense through the course of a general rate proceeding.

Edison is simply mistaken in its contention that unforeseen expenses are necessarily included in ECAC. The costs of a coal slurry spill are not energy costs and are not recoverable through ECAC. If Edison seeks recovery of such costs it is up to Edison to ask for such recovery in its general rate case.

D. Payments to Alternate Energy Producers

Staff submitted a general set of guidelines which it proposed the Commission adopt for the purpose of evaluating the reasonableness of utility purchases from alternate energy producers under nonstandard contracts in future ECAC proceedings.

These guidelines call for the reasonableness evaluation of all the utility's nonstandard contracts in the aggregate. Such an approach allegedly helps to avoid the enormous effort that would be involved in contract-by-contract review of the reasonableness of payments to QFs, if such were required.

Edison commented upon the guidelines presented by staff. It was Edison's testimony that, absent the benefit of an in-depth review, staff's proposal provided a foundation for what appears to be excellent guidelines for review and analysis of purchases from QFs in future years. Edison stated that there may be one or two minor details of the specific parts of the proposal that need to be pursued, but the general substance of the guidelines appeared quite satisfactory.

Edison states that it does support certain general concepts promoted by staff such as that the reasonableness of payments made to QFs under previously executed nonstandard contracts should not be judged in hindsight or second-guessed based upon changed circumstances that were unpredicted at the time the contracts were originally executed. Additionally, Edison supports staff's intent to protect utilities from future action to limit the revenue recovered for QF expenses to a level equal to the then current avoided cost. Edison also supports staff's concept that aggressive development of alternative/renewable generation is going to involve project failures and the utility should be protected against an economic penalty for the failure of projects for reasons beyond the utility's control.

At a minimum, Edison urges the Commission to expressly adopt in these proceedings these concepts of:

1. No hindsight review based upon unforeseen changes occurring subsequent to contract execution;
2. No future limitation of payments made to then current avoided cost; and
3. No economic penalty to the utility for project failure for reasons beyond the control of the utility.

Edison states that these concepts should be adopted as the Commission's policy with respect to future recovery of payments made to QFs under nonstandard contracts.

IEP and the State Agencies generally support the staff position. However, they state that staff addressed only one of several concerns that require clarification. According to IEP and the State Agencies, their testimony proposes guidelines for each of the major concerns likely to arise in a nonstandard agreement. IEP and the State Agencies state that they have only one dispute with the staff proposals and that is that staff would clarify only the procedure and not the substance of the review. IEP and State Agencies state that, absent the guidelines recommended by IEP and the State Agencies, producers and utilities will continue to engage in unproductive negotiations about what the Commission might accept. Producers will be required to accept unwarranted discounts from avoided cost simply to protect utilities from regulatory risk. The Commission and its staff will become increasingly mired in time-consuming reviews of the reasonablenss of utility agreements with QFs. Benefits to ratepayers from QF development, which have been reiterated so frequently over several years by this Commission, will be further delayed.

IEP and State Agencies contend that the adoption of the substantive as well as procedural guidelines is in order and that their proposed guidelines are well considered, balance the interests of all concerned, and are noncontroversial. They suggest that now is the time to adopt these guidelines and remove the uncertainty clouding development of a balanced power industry in California.

We decline to adopt guidelines. We have underway ongoing proceedings for the purpose of developing and implementing policies for utility purchases from alternate energy producers. Each of these

parties is a party in those other proceedings. Such proceedings provide a suitable forum for evaluating these proposals in the overall context of alternate energy production policy.

However, we are able to address some of Edison's concerns. Reasonableness review of alternate energy producer purchases is no different than review of other utility transactions. "Hindsight review based on unforeseen changes occurring subsequent to contract execution" is no more appropriate in this context than in any other. "Limitation of payments made to the then current avoided cost" would be like limiting oil cost recovery to spot market prices. We have no intention of applying different standards to these purchases.

Edison's suggestion that it not be penalized "for project failure for reasons beyond the control of the utility" is not acceptable. Edison is held to a standard of due care in negotiating nonstandard contracts. In the event of project failure, Edison has the burden of proving that the contract was reasonable at the time it was made. Project failure that was foreseeable is the responsibility of Edison.

Findings of Fact

1. Edison owns a 48% interest in Four Corners Units 4 and 5.

2. APS is the operating agent for Units 4 and 5.

3. Utah owns and operates the Navajo Mine located adjacent to Four Corners.

4. The Navajo Mine sells coal solely to Four Corners under long-term contracts.

5. The coal contracts were negotiated in the early 1960s with Fuel Agreement No. 2 being executed in 1966.

6. In order to maintain an acceptable coal quality, Utah opened the southern portion of its lease during 1979-1983 at a capital cost of approximately $28 million.

7. The ash collected at Units 4 and 5 amounts to approximately 1.4 million tons per year, and is disposed of as landfill material in the mine by Utah under an Ash Haul Agreement.

8. Utah agreed to relocate a portion of its coal stockpile to provide room for baghouses and scrubbers at Four Corners.

9. Under the Ash Haul Agreement Utah agreed to dispose of the dust collected by the baghouses and the sludge generated by the scrubbers, adding 100,000 tons per year to the disposal requirements.

10. The parties to Four Corners Fuel Agreement No. 2 anticipated the need to accommodate unforeseen economic conditions and provided for a price reopener if, through forces not within the reasonable control of the parties, there occur extreme or radical changes from the economic factors and conditions which existed at the time of the Agreement.

11. In December 1978 Utah claimed the extreme radical changes of the type contemplated in the Agreement had occurred, and submitted a hardship claim.

12. The Four Corners participants authorized APS to undertake negotiations with Utah.

13. APS advised Utah that it planned to thoroughly examine and test Utah's right to reopen the contract and requested Utah's position regarding arbitration.

14. Utah advised APS that it would cooperate fully with APS' investigation, but that it opposed the use of arbitration.

15. Utah pointed out that arbitration would not resolve other pending contract issues, such as matters relating to ash disposal, expansion of the Four Corners Project onto Utah's leasehold, and sulfur specifications.

16. APS confirmed the reasonableness and necessity of Utah's hardship claim.

17. Following extensive negotiations Utah and the participants agreed to a revised contract, effective January 1, 1981, which could result in substantial price increases in future years.

18. NRC regulations require two operable diesel generators at SONGS 1 in order to operate the nuclear generating unit.

19. A fire at one of the diesel generators on July 14, 1981, caused the SONGS 1 facility to be out of service from July 17, 1981, to August 16, 1981.

20. The fire was caused by a small oil leak in a section of instrument piping attached to the diesel engine; the oil ignited when it sprayed onto a hot diesel generator component.

21. The piping that failed was connected to a pressure gauge that was determined to have been installed for use during the initial start-up testing of the diesel.

22. The pressure gauge assembly was installed with materials appropriate and suitable for the temporary testing purpose.

23. The pressure gauge assembly contained a brass fitting that was not suitable for permanent use.

24. It was the failure of the brass fitting that caused the leak that caused the fire.

25. On account of the fire Edison incurred replacement energy costs of $13,147,000 on a CPUC jurisdictional basis.

26. By D.93363 we adopted a gross heat rate standard applicable to Mohave of 10,250 Btu/kWh.

27. By D.82-03-053 we provided for review of the adopted standard.

28. By D.83-01-053 Edison was penalized $4.2 million under the coal plant incentive procedure, based in part on the original Mohave standard.

29. Subsequent study indicates that the Mohave standard should be 10,550 Btu/kWh.

30. The revised standard exceeds the original standard by 300 Btu/kWh, which exceeds the limit of the associated null zone by 100 Btu/kWh.

31. In D.83-01-053 we provided that if the revised standard shows the original standard to be clearly unreasonable, we would consider the adjustment of the penalty.

32. The revision in the standard would reduce the penalty by about $1 million.

33. The difference between the two standards is material.

34. In D.93363 we provided for adjustments to the coal plant incentive procedure results to reflect events that occur that should not be taken into account.

35. Edison proposed a number of events that occurred during 1982 for recognition as modifiers.

36. Reduced coal production during minimum load conditions benefited the ratepayers.

37. Transmission line loading restrictions were consistent with safe operation of Edison's system and maximization of overall production.

38. The capacity factor standard adopted for Mohave and Four Corners already includes non-extraordinary adverse events such as the hot reheat line piping elbow failure, transmission line loading restrictions, storm-related transmission line tower failure, flood in supplier's coal storage area, coal supplier delivery equipment problems, rainfall impact on Btu content of coal, and baghouse installation.

39. Expenses incurred in a coal slurry spill at the Mohave station were not incurred for the purpose of generating energy.

Conclusions of Law

1. The price paid under the renegotiated Utah International coal supply contract was reasonable during the review period; Edison for future reasonableness periods should bear the burden of proving the reasonableness of the price paid under the renegotiated terms.

2. The replacement energy costs associated with the SONGS 1 diesel generator fire were incurred on account of Edison's unreasonableness and are not recoverable through ECAC.

3. The original Mohave heat rate standard is clearly unreasonable.

4. The coal plant incentive formula results should be adjusted to reflect minimum load conditions and transformer/line loading constraints, as proposed by Edison.

5. The remainder of the events cited by Edison are the kinds of issues that the formula was intended to avoid and should be rejected as modifiers.

6. The coal slurry spill expenses are not recoverable through ECAC.

O R D E R

IT IS ORDERED that:

1. Southern California Edison Company (Edison) shall adjust its ECAC balancing account to remove the CPUC jurisdictional impact of the replacement energy costs resulting from the SONGS 1 diesel generator fire, plus interest.

2. Edison is authorized to adjust its ECAC balancing account to reflect the revised Mohave gross heat rate standard applied to 1981 results.

3. The revised Mohave gross heat rate standard is adopted as the basis of the coal plant incentive procedure.

4. Edison shall adjust the 1982 coal plant incentive procedure to incorporate the modifying events in the manner specified in the foregoing conclusions of law.

5. Edison shall place any amounts paid under the minimum purchase provision of the Utah International coal supply contract in a noninterest-bearing deferred account. Upon the exercise of its makeup rights for coal not previously taken, Edison may include the total price paid as a debit in its ECAC balancing account subject to determination of the reasonableness of that total price.

This order becomes effective 30 days from today.

Dated September 19, 1984, at San Francisco, California.

VICTOR CALVO
PRISCILLA C. GREW
DONALD VIAL
Commissioners

Commissioner William T. Bagley, being necessarily absent, did not participate.

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

Joseph E. Bodovitz, Executive Director

APPENDIX A

List of Appearances

Applicant: John R. Bury, David N. Barry III, Richard K. Durant, Carol B. Hennings on, James M. Lehrer, and Larry C. Mount, Attorneys at Law, for Southern California Edison Company.

Interested Parties: Robert Spertus and Michel Peter Florio, Attorneys at Law, for Toward Utility Rate Normalization; Robert M. Loch, T. D. Clarke, and Robert W. Jacoby, Attorneys at Law, for Southern California Gas Company; William L. Reed, Randall W. Childress, Jeffrey Lee Guttero, and Wayne P. Sakarias, Attorneys at law, for San Diego Gas & Electric Company; Allen R. Crown and Antone S. Bulich, Jr., Attorneys at Law, for California Farm Bureau Federation; Lisa S. Trankley, Attorney at Law, for California Energy Commission; Roy Alper, Attorney at Law, for Independent Energy Producers Association; Robert E. Burt, for California Manufacturers Association; and Messrs. Downey, Brand, Seymour & Rohwer, by Philip A. Stohr, Attorney at Law, for General Motors Corporation.

Commission Staff: Freda Abbott, Attorney at Law, and Jeff O'Donnell.

(END OF APPENDIX A)

Several other issues emerged during these hearings. These include issues relating to the implementation and interpretation of the coal plant incentive procedure and guidelines for the reasonableness review of payments made to alternative energy producers.

III. Summary

In this decision we examine in detail the facts and circumstances surrounding the renegotiation of the contract with Utah International Corp. to supply coal for the Four Corners Coal plant and find Edison's conduct and the renegotiated contract reasonable. Accordingly, Edison is allowed to recover costs incurred under the renegotiated agreement.

We also examine in detail the facts and circumstances surrounding the diesel generator fire at SONGS 1 and the resulting replacement fuel costs. We find that the fire was the result of Edison's negligence, so that the resulting replacement fuel costs of about $13.1 million are not recoverable.

With regard to the coal plant incentive procedure, Edison is allowed to recalculate the result for 1981 to reflect a revised gross heat rate standard. Edison is also allowed to make certain adjustments to reflect adopted qualitative modifiers.

Guidelines for purchases from alternate energy producers are not adopted.

IV. Issues

A. The Coal Contract

1. Background

Edison owns a 48% interest in Units 4 and 5 of the Four Corners Generating Station (Four Corners). The other five participants in these 800 MW units are Arizona Public Service (APS), Public Service of New Mexico, the Salt River Project, Tuscon Gas and Electric, and El Paso Electric.

similar complexities can be used in drawing conclusions as to the relative position of Four Corners mine prices. Edison argues that Legal Division mixes simple mines with the more complex Four Corners' operation. Edison argues that the correct interpretation shows that at a comparable complexity level, Four Corners prices were uncharacteristically low prior to the renegotiation. According to Edison, in 1982 Four Corners actual prices were still below this market range. Even in 1983, after the full impact of the five-step increase is reflected in the coal price, Four Corners still has the lowest coal price when compared with mines of similar complexities.

Thus, Edison contends that the correct conclusion to be drawn from Edison's market price analysis is that neither arbitration nor litigation could reasonably have been expected to result in any lower price than Utah, in fact, received for 1982.

3. Discussion

We are persuaded that the record supports the reasonableness of the renegotiated contract. Therefore, no adjustment to Edison's recorded coal costs is necessary.

The essence of TURN's position is that the original contract was more favorable to the ratepayers than the amended contract, that the original contract was enforceable, and that Edison should have enforced it. Put in its proper context, this position is shown to be extremely simplistic. Edison has demonstrated a number of valid considerations that might have led one to reasonably conclude that the contract should be renegotiated. Once that threshold is crossed, the inquiry shifts to whether the renegotiated

contract is itself reasonable. The evidence shows that it was bargained for at arm's length over time, and that the resulting price is favorable compared to other contracts. Although it is true that Edison might have forced arbitration or litigation as an alternative to negotiation, we find no fault with either Edison's conduct or the result of the bargaining.

Our central consideration is the symbiotic relationship of the parties to the contract. Since Four Corners cannot operate without the coal, and the coal mine has no market except for the power plant, the parties have a mutuality of interest that usually is not present in commercial transactions.

TURN misses the point when it asks by what authority did Edison confer "quasi-utility" status on Utah. That status was conferred implicity from the outset of the original contract by the interdependency of the parties. The renegotiated contract merely reflects that relationship.

TURN and staff counsel are particularly critical of the rate of return provision in the renegotiated contract. It is very difficult to isolate a single provision in a complicated contract without recognizing that it is reflected in the terms of other provisions. In the overall context of this contract we are not offended by the rate of return provision as a reasonable manifestation of the intent of the parties.

the common law of negligence to the degree that such analogy benefits their position, ignoring the other features of civil litigation of which those bits and pieces are integral parts. Edison suggests that perhaps most important for the Commission to recognize is that negligence law is founded on the basis that the burden of proof lies with the plaintiff as the party alleging damages. Edison warns that any selective application of a part of the law of negligence to this proceeding artificially increases what is already clearly a high burden of proof.

3. Discussion

Resolution of this issue is not nearly so difficult as suggested by Edison's contentions. The underlying policy question is whether negligently incurred fuel costs may be recovered through ECAC. We conclude that such costs are not recoverable. The issue that we must resolve is whether these particular replacement fuel costs were incurred on account of Edison's negligence. We find that such is the case, and deny ECAC recovery.

The proposition that negligently incurred fuel costs are not recoverable through ECAC may be demonstrated by a simple syllogism:

> Reasonably incurred fuel costs are recoverable through ECAC. Negligence is the failure to use ordinary or reasonable care. Therefore, negligently incurred fuel costs are not recoverable through ECAC.

The issue similarly resolves itself when one considers what would be the consequence of any other result. If negligently incurred fuel costs are recoverable through ECAC there would be no accountability for utility operations. There would be no incentive for efficient management. Contrary to Edison's contentions, the 90/10 ECAC/AER split is not intended to shield the utility from 90% of the consequences of its negligence.

Whether Edison was negligent is resolved without reference to NRC regulations, and without resorting to negligence per se or

burden of proof doctrines. Edison's negligence is clearly established no matter who had the burden of proof.

In traditional terms, negligence involves: (a) a legal duty to use due care; (b) a breach of such legal duty; and (c) the breach as the proximate or legal cause of the injury. We find that Edison has such a duty toward its ratepayers, that it breached that duty, and that the breach was the proximate cause of the replacement fuel costs.

The existence of the duty cannot be seriously disputed. The nature of ECAC is that ratepayers compensate Edison for fuel costs reasonably incurred. Thus, ratepayers constitute a general class of persons who may be harmed by Edison's negligent conduct. Harm to the ratepayers is a foreseeable consequence of Edison's negligent operations. Thus Edison has a duty to exercise due care toward its ratepayers.

The duty is to exercise ordinary care under all of the circumstances, and it varies with changing circumstances. "The amount of care must be in proportion to the danger to be avoided and the consequences reasonably to be anticipated." Tucker v Lombardo (1956) 47 C 2d 457, 464. In many cases where a higher "degree" of care is said to be required, all that is meant is that the particular circumstances require a greater amount of care. The standard remains the same: ordinary care under the circumstances.

We find that Edison breached its duty. The instrument that failed was intended to be temporary. Consequently it was not manufactured to the standard of a permanent fixture. Specifically, it contained a brass fitting that was not suitable for permanent use. It was the failure of that brass fitting that caused the leak that caused the fire that caused the outage that caused the replacement fuel costs to be incurred.

The time that Edison installed this instrument it had the opportunity to choose the quality of the material that it would use. When it chose material suitable for temporary use, it obligated

itself to remove all such instruments within a reasonable time. Edison's own conduct indicates that it understood itself to be so obligated, since it did remove hundreds of others that were installed. Edison's failure either to use material suitable for permanent installation or to remove the instrument is negligence. Use of the higher quality material would have reduced the risk. It is a principle of negligence doctrine that if an actor reasonably can accomplish the same result by other conduct which involves less opportunity for harm to others, the risk incurred in the manner of doing business which resulted in injury is clearly unreasonable.

Edison contends that it is being held to an unreasonably high standard. As stated above, the standard is the use of ordinary care. The circumstances required a greater amount of care.

Two standby diesel generators must be operational in order for SONGS 1 to be operated. Since Edison has only two standby diesel generators at SONGS 1, both must be operable in order for the plant to operate. Given that a month long outage resulted in about $14 million in replacement fuel costs, the foreseeable consequences of a diesel generator outage are such that a great amount of care is clearly warranted.

The evidence also establishes that Edison's operating personnel would be unable to distinguish this temporary instrument from permanent instruments. Thus the testing personnel's failure to remove the instrument could not be cured by the operating personnel's subsequent discovery of the error and corrective action. Under these circumstances the testing personnel were obligated to exercise a greater amount of care than otherwise, perhaps resorting to such measures as counting the instruments.

The third element of negligence is proximate cause. In this case there is no question that the failure of the brass fitting on the "temporary" instrument was the direct cause of the fire, taking at face value Edison's claim that its actions taken to

ascertain the source of the oil leak were reasonable. Since Edison's negligence was the proximate cause of the outage, Edison cannot recover the replacement fuel costs through ECAC.

Edison takes great pride in the manner in which it responded to the fire, repaired the generator, and restored SONGS 1 to service. Although this pride maybe warranted, the conduct does not affect Edison's liability. Rather, it mitigates Edison's own exposure for replacement fuel costs.

Having now determined that the replacement fuel costs resulting from the diesel fire cannot be passed through to Edison's ratepayers, we should note that the impact of this disallowance on SDG&E has yet to be addressed by this Commission. At the first Prehearing Conference in SDG&E's last reasonableness proceeding (A.83-07-016) the ALJ requested input from the parties as to how such a disallowance for Edison would impact SDG&E, due to its 20% share of SONGS 1. (TR Vol PHC 5: 13-27.) Since all non-Tesoro related reasonableness issues have been deferred to SDG&E's current ECAC proceeding (A.84-07-027), we expect the parties will analyze this issue in the current proceeding, with specific reference to the appropriate ratemaking treatment of replacement fuel costs incurred by SDG&E during the period of the SONGS 1 outage, in view of this disallowance.

C. Coal Incentive Procedure Issues

1. Mohave Heat Rate

The coal plant incentive procedure applicable to Edison's Mohave and Four Corners generating stations was adopted by the Commission in D.93363, issued July 22, 1981, in Edison's ECAC A.59499.

As a part of the coal plant incentive procedure, D.93363 adopted a gross heat rate standard applicable to Mohave of 10,250 Btu/kilowatt-hour (kWh) ("Original Gross Heat Rate Standard") with a Null Zone of ± 200 Btu/kWh and a maximum limit of ± 1,000 Btu/kWh. This original gross heat rate standard was a part of the

Staff contends that Edison has failed to prove that oil and gas generation was reduced to the minimum before coal production was reduced. We are satisfied with Edison's showing. In fact, this showing points to a more basic problem with Edison's existing resource mix. Ideally, Edison should not have to back down its baseload coal plants in order to accept cheaper purchased power. As this problem may be significantly worse with SONGS 2 and 3 operational, we have serious concerns over whether Edison's resource mix is economically optimal. We understand that our staff is addressing this issue in Edison's current reasonableness review proceeding (A.84-02-11), and consequently we anticipate revisiting this issue in the near future with the benefit of a more highly developed record.

The failure of the hot reheat line piping elbow is an altogether different sort of event. The standard already adopted is far below the original design criteria and implicitly incorporates equipment failure. Thus, this modifier is rejected.

We will reject Edison's request for the remaining modifiers (1) because we find that their impact is de minimis and (2) because the coal incentive procedure was established in part to eliminate the need for our review of such minor fluctuations in plant operations.

We observe that Edison has encountered some difficulty in complying with the provision in D.93363 requiring that it notify the Commission that it intends to claim a modifying event within 90 days of the occurrence of the event. Based on experience with the procedure, a six-month period seems more reasonable.

3. Mohave Coal Slurry Spill

Staff took exception to Edison's treatment of coal expenses incurred in a coal slurry spill at the Mohave generating station. As a result of this spill, approximately $77,000 was recorded in the

13. APS advised Utah that it planned to thoroughly examine and test Utah's right to reopen the contract and requested Utah's position regarding arbitration.

14. Utah advised APS that it would cooperate fully with APS' investigation, but that it opposed the use of arbitration.

15. Utah pointed out that arbitration would not resolve other pending contract issues, such as matters relating to ash disposal, expansion of the Four Corners Project onto Utah's leasehold, and sulfur specifications.

16. APS confirmed the reasonableness and necessity of Utah's hardship claim.

17. Following extensive negotiations Utah and the participants agreed to a revised contract, effective January 1, 1981.

18. NRC regulations require two operable diesel generators at SONGS 1 in order to operate the nuclear generating unit.

19. A fire at one of the diesel generators on July 14, 1981, caused the SONGS 1 facility to be out of service from July 17, 1981, to August 16, 1981.

20. The fire was caused by a small oil leak in a section of instrument piping attached to the diesel engine; the oil ignited when it sprayed onto a hot diesel generator component.

21. The piping that failed was connected to a pressure gauge that was determined to have been installed for use during the initial start-up testing of the diesel.

22. The pressure gauge assembly was installed with materials appropriate and suitable for the temporary testing purpose.

23. The pressure gauge assembly contained a brass fitting that was not suitable for permanent use.

24. It was the failure of the brass fitting that caused the leak that caused the fire.

25. Economic harm to its ratepayers is a foreseeable consequence of Edison's negligence on account of the operation of ECAC.

26. Edison had the choice to use material suitable for permanent installation or for temporary installation.

27. The failure of the brass fitting was foreseeable in view of its unsuitability for permanent use.

28. The fire was a foreseeable result of the failure of the brass fitting.

29. The fire was caused by the failure of the brass fitting.

30. On account of the fire Edison incurred replacement energy costs of $13,147,000 on a CPUC jursidictional basis.

31. By D.93363 we adopted a gross heat rate standard applicable to Mohave of 10,250 Btu/kWh.

32. By D.82-03-053 we provided for review of the adopted standard.

33. By D.83-01-053 Edison was penalized $4.2 million under the coal plant incentive procedure, based in part on the original Mohave standard.

34. Subsequent study indicates that the Mohave standard should be 10,550 Btu/kWh.

35. The revised standard exceeds the original standard by 300 Btu/kWh, which exceeds the limit of the associated null zone by 100 Btu/kWh.

36. In D.83-01-053 we provided that if the revised standard shows the original standard to be clearly unreasonable, we would consider adjustment of the penalty.

37. The revision in the standard would reduce the penalty by about $1 million.

38. The difference between the two standards is material.

39. In D.93363 we provided for adjustments to the coal plant incentive procedure results to reflect events that occur that should not be taken into account.

40. Edison proposed a number of events that occurred during 1982 for recognition as modifiers.

41. Reduced coal production during minimum load conditions benefited the ratepayers.

42. Transformer/line loading constraints occur on account of economy energy purchases.

43. The capacity factor standard adopted for Mohave and Four Corners already includes equipment failures such as the hot reheat line piping elbow failure.

44. The impacts of the following qualitative modifiers are de minimis: transmission line loading restrictions, storm-related transmission line tower failure, flood in supplier's coal storage area, coal supplier delivery equipment problems, rainfall impact on Btu content of coal, and baghouse installation.

45. Expenses incurred in a coal slurry spill at the Mohave station were not incurred for the purpose of generating energy.

Conclusions of Law

1. Edison's revised contract with Utah to supply coal for Four Corners Units 4 and 5 is reasonable.

2. Edison has a duty to use due care toward its ratepayers.

3. Edison breached its duty by leaving the brass fitting in place as part of a permanent installation.

4. Edison's breach of duty was the proximate cause of replacement fuel costs.

5. The replacement energy costs were incurred on account of Edison's negligence.

6. The replacement energy costs are not recoverable through ECAC.

7. The original Mohave heat rate standard is clearly unreasonable.

8. The coal plant incentive formula results should be adjusted to reflect minimum load conditions and transformer/line loading constraints, as proposed by Edison.

9. Failure of the hot reheat line piping elbow is the kind of issue that the formula was intended to avoid and should be rejected as a modifier.

O R D E R

IT IS ORDERED that:

1. Southern California Edison Company (Edison) shall adjust its ECAC balancing account to remove the CPUC jurisdictional impact of the replacement energy costs resulting from the SONGS 1 diesel generator fire, plus interest.

2. Edison is authorized to adjust its ECAC balancing account to reflect the revised Mohave gross heat rate standard applied to 1981 results.

3. The revised Mohave gross heat rate standard is adopted as the basis of the coal plant incentive procedure.

4. Edison shall adjust the 1982 coal plant incentive procedure to incorporate the modifying events in the manner specified in the foregoing conclusions of law.

This order becomes effective 30 days from today.

Dated SEP 19 1984, at San Francisco, California.

Commissioner William T. Bagley being necessarily absent, did not participate.

VICTOR CALVO
PRISCILLA C. GREW
DONALD VIAL
Commissioners

Several other issues emerged during these hearings. These include issues relating to the implementation and interpretation of the coal plant incentive procedure and guidelines for the reasonableness review of payments made to alternative energy producers.

III. Summary

In this decision we examine in detail the facts and circumstances surrounding the renegotiation of the contract with Utah International Corp. to supply coal for the Four Corners Coal plant and find Edison's conduct and the renegotiated contract reasonable. Accordingly, Edison is allowed to recover costs incurred under the renegotiated agreement.

We also examine in detail the facts and circumstances surrounding the diesel generator fire at SONGS 1 and the resulting replacement fuel costs. We find that the resulting replacement fuel costs of about $13.1 million are not recoverable from ratepayers.

With regard to the coal plant incentive procedure, Edison is allowed to recalculate the result for 1981 to reflect a revised gross heat rate standard. Edison is also allowed to make certain adjustments to reflect adopted qualitative modifiers.

Guidelines for purchases from alternate energy producers are not adopted.

IV. Issues

A. The Coal Contract

1. Background

Edison owns a 48% interest in Units 4 and 5 of the Four Corners Generating Station (Four Corners). The other five participants in these 800 MW units are Arizona Public Service (APS), Public Service of New Mexico, the Salt River Project, Tuscon Gas and Electric, and El Paso Electric.

the common law of negligence to the degree that such analogy benefits their position, ignoring the other features of civil litigation of which those bits and pieces are integral parts. Edison suggests that perhaps most important for the Commission to recognize is that negligence law is founded on the basis that the burden of proof lies with the plaintiff. Edison warns that any selective application of a part of the law of ngeligence to this proceeding artificially increases what is already clearly a high burden of proof.

3. Discussion

Resolution of this issue is not nearly so difficult as suggested by Edison's contentions. The underlying policy question is whether ratepayers or shareholders should absorb the financial consequences of the diesel fire. In this case, based on analysis of all the circumstances, we have determined that it is inappropriate, based on traditional ratemaking principles, to allow ECAC recovery of the replacement fuel costs attributable to the diesel fire.

We need not find that Edison was negligent in order to reach this result. Indeed it is probably unwise to inject the concept of negligence, which is so closely identified as a basis for tort liability, into the ratemaking process, where standards for allowance or disallowance are already adequately defined to resolve reasonableness issues. In reasonableness reviews utilities bear the burden of proving the reasonableness of their fuel policies and so justify recovery of their fuel expenses. As we indicated in D.92496 in OII 56, in commencing the ECAC procedure:

> "of course, the burden or proof is on the utility applicant to establish the reasonableness of energy expenses sought to be recovered through ECAC. We expect a substantial affirmative showing by each utility with percipient witnesses in support of all elements of its application, including fuel costs and plant reliability." (D.92496, 4 CPUC 2d 693,701).

We have further refined this standard in subsequent ECAC proceedings. In D.83-04-089, a proceeding involving PG&E's fuel costs, we stated:

> "***Unless PG&E meets the burden of proving, with clear and convincing evidence, the reasonableness of all the expenses it seeks to have reflected in rate adjustments, those costs will be disallowed (In re Southern Counties Gas Co., 51 CPUC 533 (1952)) (D.83-04-089, Mimeo, p. 2).

A brief review of the facts established in this record leads inexorably to the conclusion that Edison's conduct, resulting in the fire and in the replacement fuel costs, does not comport with our rigorous reasonableness standard. The instrument that failed was intended to be temporary. Consequently it was not manufactured to the standard of a permanent fixture. Specifically, it contained a brass fitting that was not suitable for permanent use. It was the failure of that brass fitting that caused the leak that caused the fire that caused the outage that caused the replacement fuel costs to be incurred.

At the time that Edison installed this instrument it had the opportunity to choose the quality of the material that it would use. When it chose material suitable for temporary use, it obligated itself to remove all such instruments within a reasonable time. Edison's own conduct indicates that it understood itself to be so obligated, since it did remove hundreds of others that were installed. Edison's failure either to use material suitable for permanent installation or to remove the instrument was unreasonable.

The evidence also establishes that Edison's operating personnel would be unable to distinguish this temporary instrument from permanent instruments. Thus the testing personnel's failure to remove the instrument could not be cured by the operating personnel's subsequent discovery of the error and corrective action. Under these circumstances the testing personnel were obligated to exercise a greater amount of oversight than otherwise, perhaps resorting to such measures as counting the instruments.

It would be unconscionable from a regulatory perspective to reward such imprudent activity by passing the resultant costs through to ratepayers.

Edison takes great pride in the manner in which it responded to the fire, repaired the generator, and restored SONGS 1 to service. Although this pride maybe warranted, the conduct does not affect Edison's liability. Rather, it mitigates Edison's own exposure for replacement fuel costs.

Having now determined that the replacement fuel costs resulting from the diesel fire cannot be passed through to Edison's ratepayers, we should note that the impact of this disallowance on SDG&E has yet to be addressed by this Commission. At the first Prehearing Conference in SDG&E's last reasonableness proceeding (A.83-07-016) the ALJ requested input from the parties as to how such a disallowance for Edison would impact SDG&E, due to its 20% share of SONGS 1. (TR Vol PHC 5: 13-27.) Since all non-Tesoro related reasonableness issues have been deferred to SDG&E's current ECAC proceeding (A.84-07-027), we expect the parties will analyze this issue in the current proceeding, with specific reference to the appropriate ratemaking treatment of replacement fuel costs incurred by SDG&E during the period of the SONGS 1 outage, in view of this disallowance.

C. Coal Incentive Procedure Issues

1. Mohave Heat Rate

The coal plant incentive procedure applicable to Edison's Mohave and Four Corners generating stations was adopted by the Commission in D.93363, issued July 22, 1981, in Edison's ECAC A.59499.

As a part of the coal plant incentive procedure, D.93363 adopted a gross heat rate standard applicable to Mohave of 10,250 Btu/kilowatt-hour (kWh) ("Original Gross Heat Rate Standard") with a Null Zone of ± 200 Btu/kWh and a maximum limit of ± 1,000 Btu/kWh. This original gross heat rate standard was a part of the

13. APS advised Utah that it planned to thoroughly examine and test Utah's right to reopen the contract and requested Utah's position regarding arbitration.

14. Utah advised APS that it would cooperate fully with APS' investigation, but that it opposed the use of arbitration.

15. Utah pointed out that arbitration would not resolve other pending contract issues, such as matters relating to ash disposal, expansion of the Four Corners Project onto Utah's leasehold, and sulfur specifications.

16. APS confirmed the reasonableness and necessity of Utah's hardship claim.

17. Following extensive negotiations Utah and the participants agreed to a revised contract, effective January 1, 1981.

18. NRC regulations require two operable diesel generators at SONGS 1 in order to operate the nuclear generating unit.

19. A fire at one of the diesel generators on July 14, 1981, caused the SONGS 1 facility to be out of service from July 17, 1981, to August 16, 1981.

20. The fire was caused by a small oil leak in a section of instrument piping attached to the diesel engine; the oil ignited when it sprayed onto a hot diesel generator component.

21. The piping that failed was connected to a pressure gauge that was determined to have been installed for use during the initial start-up testing of the diesel.

22. The pressure gauge assembly was installed with materials appropriate and suitable for the temporary testing purpose.

23. The pressure gauge assembly contained a brass fitting that was not suitable for permanent use.

24. It was the failure of the brass fitting that caused the leak that caused the fire.

25. On account of the fire Edison incurred replacement energy costs of $13,147,000 on a CPUC jurisdictional basis.

26. By D.93363 we adopted a gross heat rate standard applicable to Mohave of 10,250 Btu/kWh.

27. By D.82-03-053 we provided for review of the adopted standard.

28. By D.83-01-053 Edison was penalized $4.2 million under the coal plant incentive procedure, based in part on the original Mohave standard.

29. Subsequent study indicates that the Mohave standard should be 10,550 Btu/kWh.

30. The revised standard exceeds the original standard by 300 Btu/kWh, which exceeds the limit of the associated null zone by 100 Btu/kWh.

31. In D.83-01-053 we provided that if the revised standard shows the original standard to be clearly unreasonable, we would consider the adjustment of the penalty.

32. The revision in the standard would reduce the penalty by about $1 million.

33. The difference between the two standards is material.

34. In D.93363 we provided for adjustments to the coal plant incentive procedure results to reflect events that occur that should not be taken into account.

35. Edison proposed a number of events that occurred during 1982 for recognition as modifiers.

36. Reduced coal production during minimum load conditions benefited the ratepayers.

37. Transmission line loading restrictions were consistent with safe operation of Edison's system and maximization of overall production.

38. The storm-related transmission line failure resulted in unit trips at both Mohave units.

39. Transformer/line loading constraints occur on account of economy energy purchases.

40. Failure of the hot reheat line piping elbow was the result of generic pipe fabrication problems.

41. A flood in the coal supplier's coal storage area resulted in lost generation at Four Corners.

42. Heavy rainfall at Four Corners adversely impacted the Btu content of the coal supply.

43. Start-up testing of new baghouses resulted in reduced generation at Four Corners.

44. Expenses incurred in a coal slurry spill at the Mohave station were not incurred for the purpose of generating energy.

Conclusions of Law

1. Edison's revised contract with Utah to supply coal for Four Corners Units 4 and 5 is reasonable.

2. The replacement energy costs associated with the SONGS 1 diesel generator fire were incurred on account of Edison's unreasonableness and are not recoverable through ECAC.

3. The original Mohave heat rate standard is clearly unreasonable.

4. The coal plant incentive formula results should be adjusted to reflect minimum load conditions and transformer/line loading constraints, as proposed by Edison.

5. Failure of the hot reheat line piping elbow is the kind of issue that the formula was intended to avoid and should be rejected as a modifier.

6. The formula should not be adjusted for modifiers found to be de minimis.

7. The coal slurry spill expenses are not recoverable through ECAC.

10. The formula should not be adjusted for modifiers found to be de minimis.

11. The coal slurry spill expenses are not recoverable through ECAC.

O R D E R

IT IS ORDERED that:

1. Southern California Edison Company (Edison) shall adjust its ECAC balancing account to remove the CPUC jurisdictional impact of the replacement energy costs resulting from the SONGS 1 diesel generator fire, plus interest.

2. Edison is authorized to adjust its ECAC balancing account to reflect the revised Mohave gross heat rate standard applied to 1981 results.

3. The revised Mohave gross heat rate standard is adopted as the basis of the coal plant incentive procedure.

4. Edison shall adjust the 1982 coal plant incentive procedure to incorporate the modifying events in the manner specified in the foregoing conclusions of law.

This order becomes effective 30 days from today.

Dated _____, at San Francisco, California.

similar complexities can be used in drawing conclusions as to the relative position of Four Corners mine prices. Edison argues that Legal Division mixes simple mines with the more complex Four Corners' operation. Edison argues that the correct interpretation shows that at a comparable complexity level, Four Corners prices were uncharacteristically low prior to the renegotiation. According to Edison, in 1982 Four Corners actual prices were still below this market range. Even in 1983, after the full impact of the five-step increase is reflected in the coal price, Four Corners still has the lowest coal price when compared with mines of similar complexities.

Thus, Edison contends that the correct conclusion to be drawn from Edison's market price analysis is that neither arbitration nor litigation could reasonably have been expected to result in any lower price than Utah, in fact, received for 1982.

3. Discussion

In this case, we will adopt the recommendation of the Revenue Requirements Division and Fuel and Operations Branch to the extent that they find that Edison's coal prices are reasonable. However, we will also adopt Legal Division's recommendation and refrain from finding that the renegotiated coal contract is reasonable. Numerous provisions in the contract lead us to believe that ratepayers may be seriously disadvantaged by the new contract.

While it is arguable that Utah was entitled to some price relief, Edison has made considerable concessions which could result in substantial price increases. Utah is now entitled to escalation based upon monthly indexing rather than historical, annual inflation indices. Utah will now be fully reimbursed for regulatory and

royalty costs. Utah's rate of return is substantially protected by the new five-year reopener clause which is triggered by prevailing market rates of returns for similar mine investments. And Edison has now agreed to a minimum obligations clause under which Four Corners Units 4 and 5 must use 6.3 million tons of coal per year or pay 76 percent of the contract price; compared to the average take level of 6.7 million tons per year, there is little margin for reducing Four Corners output without triggering this take-or-pay clause.

Edison has argued that the price paid under the negotiated contract is presently favorable as compared to prevailing coal prices. We agree for the moment. We also agree that market price is a fair test of the fuel prices paid by Edison. We will in the future measure the reasonable cost of coal purchased under the renegoiated contract by comparing the price paid against market price; we expect that price to remain most favorable to the ratepayer in light of the fact that Edison has dealt away what was once an extremely favorable contract. Finally, take-or-pay obligations in natural gas supply contracts have come under intense scrutiny and disfavor. That bias should be effectuated in the case of coal supply contracts, too, especially where, as here, a captive seller is involved. Therefore, if Edison incurs liabilities for coal not taken, it shall record those liabilities in a noninterest-bearing account. If and when Edison exercises its makeup rights, the total price paid (the minimum take penalty plus the cost under the makeup provision) shall be recoverable to the extent determined reasonable through our ECAC reasonableness review process.

of that procedure was to reward or penalize based on performance, not based upon the number or form of records kept or presented.

k. Discussion

The coal plant incentive procedure is intended to provide Edison with an incentive to optimize production from its coal plants, while protecting the ratepayers' interest in lower rates. The qualitative modifiers concept provides a method for either adjusting the results of the procedure formula to reflect certain kinds of events that occurred during the year, or for suspending the procedure for the duration of the event. As we stated in D.93363, such modifying events are generally beyond the ability of management to control or foresee.

The implementation of the procedure is still in its early stages. Edison has proposed a number of different types of events for inclusion. Our decision should provide guidance for the parties in subsequent proceedings.

We start with the premise that the purpose of the procedure is to optimize production, not to maximize production. Thus, when system load conditions indicate that reduced production benefits the ratepayer, Edison should not be confronted with a situation where the ratepayer and shareholder interests conflict. Thus, minimum load conditions and transformer/line loading constraints qualify as modifying events. Since the ratepayers benefit when such conditions occur, Edison should be rewarded by sharing in the benefit. Although the overall impact of these modifiers on Edison's reward is de minimis, we want to eliminate any perverse incentives resulting from our adoption of the coal plant incentive procedure. Thus, the formula should be adjusted to reflect those events, as proposed by Edison.

Staff contends that Edison has failed to prove that oil and gas generation was reduced to the minimum before coal production was reduced. We are satisfied with Edison's showing. In fact, this showing points to a more basic problem with Edison's existing resource mix. Ideally, Edison should not have to back down its baseload coal plants in order to accept cheaper purchased power. As this problem may be significantly worse with SONGS 2 and 3 operational, we have serious concerns over whether Edison's resource mix is economically optimal. We understand that our staff is addressing this issue in Edison's current reasonableness review proceeding (A.84-02-11), and consequently we anticipate revisiting this issue in the near future with the benefit of a more highly developed record.

The remaining events cited by Edison are altogether different. The adopted target capacity factors of 61% for Mohave and 59% for Four Corners are far below the original design criteria and implicitly incorporate non-extraordinary adverse events such as those experienced in 1982. Thus, these modifiers are rejected. We note further that all these events, except the failure of the hot reheat line piping elbows, are truly de minimis; combined they would reduce Edison's reward by about $250,000. It was never our intent to burden the coal plant incentive program with evaluation of minutae of this sort.

We observe that Edison has encountered some difficulty in complying with the provision in D.93363 requiring that it notify the Commission that it intends to claim a modifying event within 90 days of the occurrence of the event. Based on experience with the procedure, a six-month period seems more reasonable.

3. Mohave Coal Slurry Spill

Staff took exception to Edison's treatment of coal expenses incurred in a coal slurry spill at the Mohave generating station. As a result of this spill, approximately $77,000 was recorded in the

25. On account of the fire Edison incurred replacement energy costs of $13,147,000 on a CPUC jurisdictional basis.

26. By D.93363 we adopted a gross heat rate standard applicable to Mohave of 10,250 Btu/kWh.

27. By D.82-03-053 we provided for review of the adopted standard.

28. By D.83-01-053 Edison was penalized $4.2 million under the coal plant incentive procedure, based in part on the original Mohave standard.

29. Subsequent study indicates that the Mohave standard should be 10,550 Btu/kWh.

30. The revised standard exceeds the original standard by 300 Btu/kWh, which exceeds the limit of the associated null zone by 100 Btu/kWh.

31. In D.83-01-053 we provided that if the revised standard shows the original standard to be clearly unreasonable, we would consider the adjustment of the penalty.

32. The revision in the standard would reduce the penalty by about $1 million.

33. The difference between the two standards is material.

34. In D.93363 we provided for adjustments to the coal plant incentive procedure results to reflect events that occur that should not be taken into account.

35. Edison proposed a number of events that occurred during 1982 for recognition as modifiers.

36. Reduced coal production during minimum load conditions benefited the ratepayers.

37. Transmission line loading restrictions were consistent with safe operation of Edison's system and maximization of overall production.

38. The capacity factor standard adopted for Mohave and Four Corners already includes non-extraordinary adverse events such as the hot reheat line piping elbow failure, transmission line loading restrictions, storm-related transmission line tower failure, flood in supplier's coal storage area, coal supplier delivery equipment problems, rainfall impact on Btu content of coal, and baghouse installation.

39. Expenses incurred in a coal slurry spill at the Mohave station were not incurred for the purpose of generating energy.

Conclusions of Law

1. ~~Edison's revised contract with Utah to supply coal for Four Corners Units 4 and 5 is reasonable.~~

2. The replacement energy costs associated with the SONGS 1 diesel generator fire were incurred on account of Edison's unreasonableness and are not recoverable through ECAC.

3. The original Mohave heat rate standard is clearly unreasonable.

4. The coal plant incentive formula results should be adjusted to reflect minimum load conditions and transformer/line loading constraints, as proposed by Edison.

5. The remainder of the events cited by Edison are the kinds of issues that the formula was intended to avoid and should be rejected as modifiers.

6. The coal slurry spill expenses are not recoverable through ECAC.