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Decision 89 08 028 AUG 3 1989

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of)
SAN DIEGO GAS & ELECTRIC COMPANY,)
for authority to revise its Energy)
Cost Adjustment Clause Rate, to)
revise its Annual Energy Rate, and)
to revise its Electric Base Rates)
effective November 1, 1988 in)
accordance with the Electrical)
Revenue Adjustment Mechanism)
established by Decision 93892.)
(U 902-E))

ORIGINAL

Application 88-07-003
(Filed July 1, 1988)

(See Decision 88-12-093 for appearances.)

OPINION

I. Summary

This decision finds that San Diego Gas & Electric Company's (SDG&E) payments to qualifying facilities (QF) and SDG&E's fossil fuel and nuclear expenses during the 1987-1988 record period were reasonable with the exception of nuclear uranium enrichment costs. This decision grants SDG&E \$352,908 for efficient operation of San Onofre Nuclear Generating Station (SONGS) Unit 2 and allows \$7,799 in excess fuel oil inventory carrying costs. It requires SDG&E to credit to ratepayers \$29,757 for interest on the credit resulting from an agreement that resolved questionable Heber geothermal power plant steam charges.

This proceeding is divided into three phases. In Phase I, the forecast phase, we addressed SDG&E's revenue requirements for the next forecast period (Decision (D.) 88-12-093). In this phase, Phase II, we review the reasonableness of SDG&E's payments to QFs and SDG&E's fossil fuel and nuclear expenses for the record period of May 1, 1987 to April 30, 1988.

In Phase III, we will examine the reasonableness of certain SDG&E's power purchase contracts and power purchase expenses for the 1986-87 and 1987-88 record periods, except for payments to QFs.

Two issues, which were originally to be heard in this proceeding, have been consolidated with the reasonableness phase of the Southern California Edison Company (SCE) Energy Cost Adjustment Clause (ECAC), Application (A.) 88-02-016 by Administrative Law Judge's (ALJ) ruling:

1. Modification of the Target Capacity Factor (TCF) of its Nuclear Unit Incentive Procedure.
2. The review of its nuclear uranium enrichment contracts.

II. Request

In this application SDG&E requests that the Commission find its recorded ECAC expenses and gas and electric operations during the record period reasonable. The 1987-1988 record period covers May 1, 1987 through April 30, 1988.

III. Procedural Background

Hearings were held in San Diego on January 9 and in San Francisco on January 12, 1989. Division of Ratepayer Advocates (DRA) and SDG&E presented testimony. At the conclusion of hearings, the ALJ requested that the parties prepare proposed findings of fact and conclusions of law. DRA and SDG&E jointly prepared and submitted proposed findings and conclusions.

IV. Discussion of Reasonableness Issues

DRA and SDG&E are in agreement on all issues in this phase of the proceeding. No other parties oppose the joint DRA/SDG&E position. This decision will briefly discuss the major reasonableness issues.

1. Nuclear Incentives

The Nuclear Unit Incentive Procedure was initially adopted in D.83-09-007 for SONGS 2, and subsequently expanded to include SONGS 1 and 3. The procedure adopted a TCF with a dead band of 55% to 80% of the gross fuel capacity factor (CF) for SONGS 2 and 3, and 55% to 75% for SONGS 1. The CF is the percentage of recorded to maximum generation, determined by dividing the recorded generation by the product of the rated capacity times the hours during the fuel cycle. If the units operate within the TCF dead band, no reward or penalty results; but if operation is above or below it, SDG&E is eligible for a reward or penalty. The amount of reward or penalty is 50% of the reduced or increased fuel costs for the amount of generation that is outside the dead band. Ratepayers receive the other 50% of the reward or penalty.

The Nuclear Unit Incentive Procedure does not apply to SONGS 1 and 3 for this review period since the fuel cycles were not completed during the record period.

The Nuclear Unit Incentive Procedure applies to SONGS 2 which completed fuel cycle 3 (5/29/86 to 10/19/87) during the review period. The CF of SONGS 2 was calculated as follows:

$$CF = \frac{2,244,395 \text{ megawatt-hours}}{12,187.2 \text{ hours} \times 225.4 \text{ megawatts}} \times 100 = 81.70\%$$

Because the CF exceeds the 80% upper limit of the TCF dead band by 1.70%, SDG&E is entitled to a "reward". DRA and SDG&E

agree that this amount, based on SDG&E's 50% share of the reduced fuel cost, is \$352,908.

We conclude that SDG&E is entitled to a reward of \$352,908 for operation of SONGS Unit 2 during the record period.

2. Nuclear Fuel

a. Uranium Purchases

DRA found that the earlier uranium purchases that were expensed during the review period were reasonable. We conclude that these purchases were reasonable.

During the record period, SDG&E entered into a contract for 99,300 pounds of uranium from Nuexco Trading Corporation at \$16.17 per pound, to be paid at delivery. D.87-10-042 changed the review procedure for uranium purchases by providing that they be reviewed as soon as possible after the purchase, rather than when expensed, which can be five to ten years after the purchase. The review of the Nuexco purchase will be a part of the reasonableness review for the record period in which the delivery and payment are made.

b. Conversion

Uranium in the form U308 must be converted to the gaseous form UF₆, uranium flouride, prior to enrichment. DRA found the conversion costs to be reasonable based on comparison with past conversion costs approved by the Commission.

We conclude that the conversion costs subject to review in this record period were reasonable.

c. Enrichment

Enrichment transforms UF₆ to U235, which is the form used as fuel in the nuclear reactor. Enrichment costs are 40% to 50% of the nuclear fuel expense.

Prior to 1983 all enrichment in the United States was done by the U.S. Department of Energy (DOE). DRA does not question the enrichment costs prior to 1983, since no alternate source was available.

Although most of SDG&E's record period fuel batches were enriched prior to 1983, DRA withholds judgment on the costs of SDG&E's fuel batches enriched after 1982 and recommends that SDG&E be ordered to furnish a report on the international enrichment market, both historical and current. The report should justify why SDG&E relied on DOE rather than the apparently lower cost international enrichment market.

The reasonableness of SDG&E's enrichment costs for the record periods May 1, 1986 through April 30, 1988 has been consolidated with SCE's ECAC A.89-05-064. The Commission's findings regarding enrichment costs will apply to SDG&E in proportion to its 20% ownership interest in SONGS.

d. Fabrication

DRA reviewed the fabrication costs by comparing them with past fabrication costs approved by the Commission and found them to be reasonable.

We conclude that fabrication costs for fuel used during this record period were reasonable.

e. Interim Storage

SONGS 1 spent fuel is currently in interim storage at General Electric Company's Morris, Illinois facility. Based on comparing these record period costs with past interim storage costs approved by the Commission, DRA finds the record period storage costs reasonable.

We conclude that the interim storage costs were reasonable for the record period.

f. Disposal Costs

The disposal costs were incurred as a result of the Nuclear Waste Policy Act of 1982 which set a rate of 1 mill per kilowatt-hour (kWh) of nuclear generation.

DRA believes that these costs are reasonable since SDG&E has no control over them.

We conclude that the disposal costs for the record period were reasonable.

3. Fossil Fuel Management

a. Natural Gas

Natural gas (gas) was the fossil fuel of choice during the review period due to its low cost. Availability was good except during an unusually cold winter period when gas for electric generation was curtailed.

DRA reviewed SDG&E's gas operations including:

- Spot gas purchase strategies relative to pricing and to the requirements of interruptible customers.
- Longer term transactions compared to alternate supplies.
- The level of lost and unaccounted for gas.

DRA found that during four months of the record period, SDG&E did not purchase enough spot gas for interruptible customers. DRA was satisfied that this was due either to unavailability of economical spot gas, or to reduced availability due to high gas demand for electric generation for air-conditioning load resulting from unseasonably warm weather.

Lost and unaccounted for gas is the difference between the gas volume entering SDG&E's system and the actual gas sales to customers. DRA noted that this factor has substantially declined from a five-year average of 1.2% to a record period 0.468%. DRA believes that this amount is reasonable.

Based on SDG&E's showing and DRA's analysis, we conclude that SDG&E's gas operations were reasonable in all respects. We encourage SDG&E to continue its aggressive spot gas procurement policy, which resulted in significant savings to its ratepayers during the record period. SDG&E may be able to meet more requirements with economical spot gas in the future now that it has access to some of SoCal's storage facilities.

b. Fuel Oil

(1) Procurement and Burn

SDG&E purchased 217,000 barrels (bbl) of low sulphur fuel oil (LSFO) on the spot market, at \$14.96/bbl delivered, to replace some of the 325,000 bbl of LSFO it burned during the 46-day winter gas curtailment. SDG&E also purchased 23,000 gallons of jet fuel for inventory replacement.

DRA found that the amount of oil burn was reasonable since it was either due to gas curtailment or to testing.

We observe that the amount of oil burn was the minimum necessary, that procurement of LSFO appears to be fairly priced, and that the amount of LSFO purchased only partially replaced the amount burned and thereby reduced the level of LSFO inventory.

We conclude that SDG&E's fuel oil procurement and burn during the record period were reasonable.

(2) Inventory Management

The authorized levels of fuel oil inventory based on the two most recent SDG&E ECAC decisions, D.87-01-051 and D.87-12-069, are 884,200 bbl of LSFO and 72,000 bbl of distillate oil for this record period. These levels are for the review period of May through April and are determined from the appropriate monthly levels from each decision for the November through October forecast period.

During the review period SDG&E held average inventory levels of 887,700 bbl of LSFO and 72,200 bbl of distillate, exceeding the authorized levels by 3,500 bbl and 200 bbl, respectively. D.87-01-051 allowed SDG&E to hold excess oil in inventory and to recover reasonably incurred costs upon a sufficient showing.

SDG&E stated that it had two means of reducing the inventory from approximately one million bbl required for the start of the heating season to the authorized average. First, it could

burn the excess at a savings of \$0.50/bbl in carrying costs but at a penalty of \$8/bbl in fuel cost as compared to the cost of gas. The net economic impact would have been heavily negative.

SDG&E's second choice was to sell the excess oil. However, the \$0.50/bbl savings in carrying costs would have been exceeded by the transportation costs of about \$2/bbl for replacement oil. Therefore, unless oil prices dropped substantially during the period of inventory replacement, selling the excess oil and replacing it later would not be an economic choice. If oil increased in price instead of decreasing, this option would be even more uneconomic.

DRA agrees with SDG&E's reasoning and believes that small variations from authorized inventory levels should be allowed under these circumstances. DRA recommends that SDG&E be allowed to recover all fuel oil inventory carrying costs during the review period.

We observe that SDG&E properly evaluated the economics and risks of options that could have reduced the inventory to allowable levels. The options either did not appear prudent or involved significant risk. In light of these conditions, and recognizing that the actual fuel oil inventory levels exceeded the authorized levels by less than 1/2%, we conclude that SDG&E's fuel oil inventory management is reasonable. We will allow recovery of \$7,799 in excess fuel oil inventory carrying costs.

4. Fossil Fuel Power Plant Operation

a. Generation, Availability and Outages

SDG&E has nine fossil fuel power plants that contain a total of 28 units. During the record period, these units generated 4,925 gigawatt-hours (gWh) or about 33% of SDG&E's system requirements. Fossil fuel generation is about 10% higher in this record period due to lower gas prices than in the past period.

DRA investigated the outages and power plant availability to determine whether SDG&E has adequately maintained its units. A measure of availability is the equivalent availability factor (EAF) which is the percentage of time a unit is available for full generation. The EAF was 88.7% during this record period, compared to 85.9% during the prior record period. SDG&E attributes the increased availability to its effective predictive and preventative maintenance program. DRA concludes that the quantity and availability of fossil fuel generation are reasonable.

b. Efficiency

The efficiency of fossil fuel generation is measured by heat rate, which is the amount of energy used in producing a unit of generation, expressed as British thermal unit (Btu)/kWh. The recorded heat rates are compared with theoretical heat rates, and with past recorded heat rates, to determine whether power plant efficiency is improving or declining over time.

In order to meaningfully compare recorded with theoretical heat rates, it is necessary to adjust the theoretical heat rate to compensate for operating conditions that require additional fuel. These conditions include start-up, auxiliary usage, circulating water inlet temperature, off-line saturated steam usage, and unit degradation. The theoretical heat rate result is adjusted to obtain a loading heat rate.

The difference between the loading heat rate and the recorded heat rate is called the heat rate deviation which is compared with the bandwidth. Bandwidth is the allowable deviation from the loading heat rate that the Commission considers reasonable, absent a showing to the contrary.

SDG&E determined the heat rate deviation to be 38 Btu/kWh during the record period. This value is well within the current bandwidth of 151 Btu/kWh established by D.89-04-059 and is lower than for prior record periods. DRA evaluated the reasons for the

low heat rate deviation and concludes that improvements in SDG&E's operations are responsible.

We observe that the improved availability and low heat rate deviation for the record period demonstrate that SDG&E has been successful in improving its fossil fuel power plant operations. We conclude that fossil fuel power plant operations were reasonable for the record period.

5. Purchases from Qualifying Facilities

Under the Public Utilities Regulatory Policy Act of 1978 and Commission orders, SDG&E is required to purchase power generated by QFs at its avoided cost of generation. A total of 214.16 gWh was purchased from QFs during the record period at a cost of \$13,128,133, at an average price of 6.13¢/kWh, consisting of 1.01¢/kWh for capacity and 5.12¢/kWh for energy. These purchases were from 84 QFs with standard contracts, and from Aeolus, Immel, and Kelco with nonstandard contracts. DRA reviewed the payments and found them to be reasonable.

We conclude that SDG&E's purchased energy payments to QFs were reasonable for the record period.

6. Cogeneration

SDG&E has a contract with Energy Factors, Inc. (EFI) wherein EFI purchases the thermal output of three combustion turbines owned and operated by SDG&E. The thermal output consists of electricity plus steam generated from the waste heat. EFI receives an electric production credit for the electricity it puts back into the SDG&E grid. This credit is reduced by an adjustment based on differential fuel costs to compensate SDG&E for the additional fuel costs it incurs since the contract requires the combustion turbines to operate as must-run units. They otherwise would normally operate only as peaking units due to their low efficiencies.

SDG&E calculated this adjustment at \$3,170,960 for the record period. DRA verifies that this amount is reasonable.

We conclude that the adjustment of \$3,170,960 is reasonable.

7. Chevron/Unocal Geothermal Settlement

SDG&E purchases heat to operate the Heber geothermal power plant under contract from Chevron Geothermal Company and the Unocal Geothermal Division of Unocal Corporation (Chevron/Unocal). As a result of its internal audit procedures in 1987, SDG&E identified \$477,000 in questionable charges for operation and maintenance expenses previously paid under the contract. SDG&E and Chevron/Unocal subsequently reached a settlement agreement in the amount of \$333,000 that applied as a credit to future heat invoice payments by SDG&E. The ECAC balancing account has been credited with the proper ECAC fraction of the settlement, 92% of \$333,000, or \$306,360.

DRA recommends that a further ECAC balancing account credit of \$29,757 be made for related interest on this \$306,360. Neither SDG&E nor any other party objects to this adjustment.

We conclude that it is reasonable to credit the ECAC balancing account with \$29,757 for interest and will so order.

8. Tax Reform Effects True-Up

The Commission opened Order Instituting Investigation 86-11-019 to investigate the ratemaking implications of the Tax Reform Act of 1986. D.88-01-061 ordered the utilities to reflect the effects of it and the California counterpart, Chapter 1139, the California Bank and Corporation Tax Fairness, Simplification and Conformity Act of 1987, on 1987 and 1988 revenue requirements by crediting the Electric Revenue Adjustment Mechanism (ERAM) balancing account.

SDG&E petitioned the Commission to modify that decision by allowing it to implement a one-time refund for the effects on 1987 revenue requirements. SDG&E's request was approved by D.88-04-065, which required the refund to be made after the calculations were reviewed by the Commission Advisory and

Compliance Division (CACD). Since time constraints prevented CACD from performing a timely review, SDG&E was allowed to make the refund on an estimated basis with a true-up to be made at a later date. SDG&E began customer refunds in the June 1988 billing period based on an estimated 1987 refund of \$14,987,171, including interest, through June 15, 1988.

SDG&E, in its 1988 attrition filing, estimated the 1988 revenue requirements effect to be a reduction of \$39,792,700. DRA recommends that the true-up adjustment for both 1987 and 1988 be reflected in SDG&E's ERAM balancing account.

We conclude that the true-up should be made for 1987 and 1988 tax effects. We will order SDG&E to file an advice letter for the true-up amount including interest from June 16, 1988.

9. Annual Energy Rate (AER) Earnings

DRA compared SDG&E's cumulative AER revenues and expenses and compared the results with the AER earnings limitation cap. The AER overcollection of \$4,349,956 is well within the cap of \$14,148,039 for the record period. We conclude that no adjustment to AER earnings is appropriate.

V. Comments

Comments were filed by DRA and SDG&E, with both parties suggesting minor language changes to clarify our intent regarding the review of nuclear enrichment costs. DRA also suggests minor changes to the reference to Phase III. To the extent they are appropriate, these changes have been made.

Findings of Fact

1. SDG&E filed A.88-07-003 on July 1, 1988 requesting, among other things, that the Commission review and find reasonable its recorded electric and gas energy costs under the ECAC for the May 1, 1987 through April 30, 1988 record period.

2. SDG&E also requested that the Commission review and find reasonable its gas and electric operations during the May 1, 1987 through April 30, 1988 record period.

3. In the prior ECAC A.87-07-009, the reasonableness review of purchased power operations and expenses, except for payments to QFs, was deferred until review of this 1987-1988 record period.

4. A.88-07-003 was split into three phases. Phase I involved forecast issues and resulted in D.88-12-034. Phase II addresses the reasonableness of recorded ECAC expenses and gas and electric operations during the record period, except for purchased power issues. Purchased power issues are deferred to Phase III due to their interrelationship with Southwest Power Link issues.

5. SDG&E is a 20% owner of SONGS Units 1, 2, and 3.

6. The issue of modifying the TCF of the Nuclear Unit Incentive Procedure was consolidated with the reasonableness phase of the SCE ECAC A.88-02-016.

7. SONGS Units 1 and 3 did not complete a fuel cycle during the record period.

8. Songs Unit 2 completed fuel cycle 3 during the record period.

9. The SONGS Unit 2 TCF dead band range is 55% to 80%.

10. SONGS Unit 2 operated at a CF of 81.70% during the review period, making it eligible for a Nuclear Unit Incentive Procedure reward.

11. SDG&E and DRA agree that the appropriate Nuclear Unit Incentive Procedure reward for the record period is \$352,908.

12. D.87-10-042 modified the review procedure for uranium purchases, requiring reasonableness review as soon as possible after purchase, rather than when expensed.

13. Prior to 1983 all enrichment in the United States was done by the DOE.

14. DRA recommends, and SDG&E does not oppose, that an investigation be conducted into the reasonableness of SDG&E's uranium enrichment costs.

15. DRA concludes that SDG&E's nuclear operations during the record period were reasonable.

16. Natural gas was the fossil fuel of choice during the record period due to low cost.

17. SDG&E purchased gas from SoCal to meet the requirements of its noninterruptible core customers.

18. SDG&E met 49% of gas system requirements with spot gas at an average cost of \$1.76/MMBtu plus transportation. This gas primarily served interruptible and cogeneration customers.

19. SDG&E's lost and unaccounted for gas declined from a five-year average of 1.2% to a record period 0.468%.

20. DRA concludes that SDG&E's gas operations were reasonable.

21. SDG&E purchased 217,000 bbl of LSFO at \$14.96/bbl delivered, to replace some of the LSFO it burned during the period of gas curtailment.

22. SDG&E purchased 23,000 gallons of distillate oil during the record period.

23. SDG&E's fuel oil inventory level exceeded the authorized level during the record period, and incurred an inventory carrying cost \$7,799 higher than authorized by the Commission.

24. D.87-01-051 allows SDG&E to recover the carrying costs for excess fuel oil in inventory upon a sufficient showing of reasonableness.

25. DRA and SDG&E conclude that it would have been uneconomic for SDG&E to have reduced its fuel oil inventory to the authorized level.

26. DRA concludes that SDG&E's fuel oil procurement and inventory management during the record period are reasonable.

27. SDG&E's system has nine fossil fuel power plants with a total of 28 units.

28. Fossil fuel units generated 33% of SDG&E's system requirements during the record period.

29. The EAF for SDG&E's fossil fuel units was 88.7% during the record period compared to 85.9% during the prior record period.

30. SDG&E's heat rate deviation at 38 Btu/kWh during the record period was well within the bandwidth of 151 Btu/kWh.

31. Purchases were made from 84 QFs with Standard Offer contracts and the Aeolus, Immel, and Kelco nonstandard contracts. ✓

32. DRA reviewed the SDG&E purchases and payments made pursuant to the standard and nonstandard contracts and found them to be reasonable.

33. DRA believes that the equity adjustment of \$3,170,960 under the cogeneration contract with EFI is reasonable.

34. DRA found SDG&E's fossil fuel power plant operations to be reasonable during the record period.

35. SDG&E reached an agreement with Chevron/Unocal on questionable charges for steam at the Heber geothermal power plant, resulting in a \$306,360 credit to the ECAC balancing account.

36. DRA recommends, and SDG&E does not oppose, that an additional \$29,757 credit be made to the ECAC balancing account for interest related to the \$306,360 credit.

37. DRA and SDG&E agree that any true-up made due to SDG&E's estimate of the 1987 and 1988 tax reduction due to the Tax Reform Act of 1986 and the California Bank and Corporation Tax Fairness, Simplification, and Conformity Act of 1987 be recorded in the ERAM balancing account (plus interest beginning June 16, 1988), after filing and approval of an advice letter.

38. SDG&E's cumulative AER overcollection of \$4,349,956 is within the AER earnings limitation cap of \$14,148,039 for the record period.

Conclusions of Law

1. SDG&E's expenses and operations, both gas and electric, are found to be reasonable for the record period with the following exceptions:

- a. The purchase power issues, including contract administration, deferred to Phase III of this proceeding.
- b. Nuclear uranium enrichment expenses are to be examined in the SCE ECAC in which SCE's nuclear uranium enrichment expenses are examined.
- c. The failure to credit the ECAC balancing account with an additional \$29,757 interest credit.

2. SDG&E is entitled to a Nuclear Unit Incentive Procedure reward of \$352,908 for SONGS Unit 2.

3. Nuclear enrichment costs for the review periods May 1, 1986 through April 30, 1988 should be reviewed in SCE's ECAC A.89-05-064, with the Commission decision applied to SDG&E in proportion to its 20% ownership interest in SONGS.

4. SDG&E reasonably incurred excess fuel oil inventory costs in the amount of \$7,799.

5. SDG&E should file an advice letter to record in the ERAM balancing account the true-up of SDG&E's estimate of the 1987 and 1988 revenue requirement reductions due to the Tax Reform Act of 1986 and the California Bank and Corporation Tax Fairness, Simplification, and Conformity Act of 1987.

ORDER

IT IS ORDERED that:

1. San Diego Gas & Electric Company (SDG&E) is authorized to record a debit of \$352,908 in its Energy Cost Adjustment Clause (ECAC) balancing account to reflect the approved Nuclear Unit

Incentive Procedure reward for San Onofre Nuclear Generating Station (SONGS) Unit 2 for the May 1, 1987 through April 30, 1988 record period.

2. The Commission's decision in A.89-05-064 regarding nuclear enrichment costs shall apply to SDG&E in proportion to its 20% ownership interest in SONGS.

3. SDG&E is authorized to record a debit of \$7,799 in its ECAC balancing account to reflect approval of the excess fuel oil inventory costs incurred during the record period.

4. SDG&E shall record a credit of \$29,757 in its ECAC balancing account to reflect the interest on the credit resulting from the agreement on questionable Heber geothermal power plant steam charges.

5. SDG&E shall file an advice letter to reflect true-up of the 1987 and 1988 revenue requirement reduction resulting from the Tax Reform Act of 1986 and the California Bank and Corporation Tax Fairness, Simplification, and Conformity Act of 1987, including interest from June 16, 1988 at the Electric Revenue Adjustment Mechanism balancing account rate.

6. Purchased power and associated costs and operations will be addressed for reasonableness in Phase III of this proceeding.

This order is effective today.

Dated AUG 3 1989, at San Francisco, California.

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

Commissioner Stanley W. Hulett,
being necessarily absent, did not
participate.

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

Victor Weissner
Victor Weissner, Executive Director
DB

Decision _____

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of)
SAN DIEGO GAS & ELECTRIC COMPANY,)
for authority to revise its Energy)
Cost Adjustment Clause Rate, to)
revise its Annual Energy Rate, and)
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effective November 1, 1988 in)
accordance with the Electrical)
Revenue Adjustment Mechanism)
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(U 902-E))

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(Filed July 1, 1988)

(See Decision 88-12-093 for appearances.)

O P I N I O N

I. Summary

This decision finds that San Diego Gas & Electric Company's (SDG&E) payments to qualifying facilities (QF) and SDG&E's fossil fuel and nuclear expenses during the 1987-1988 record period were reasonable. This decision grants SDG&E \$352,908 for efficient operation of San Onofre Nuclear Generating Station (SONGS) Unit 2 and allows \$7,799 in excess fuel oil inventory carrying costs. It requires SDG&E to credit to ratepayers \$29,757 for interest on the credit resulting from an agreement that resolved questionable Heber geothermal power plant steam charges.

This proceeding is divided into three phases. In Phase I, the forecast phase, we addressed SDG&E's revenue requirements for the next forecast period (Decision (D.) 88-12-093). In this phase, Phase II, we review the reasonableness of SDG&E's payments to QFs and SDG&E's fossil fuel and nuclear expenses for the record period of May 1, 1987 to April 30, 1988.

In Phase III, we will examine the reasonableness of SDG&E's power purchase expenses for the 1986-87 and 1987-88 record periods, except for payments to QFs.

Two issues, which were originally to be heard in this proceeding, have been consolidated with the reasonableness phase of the Southern California Edison Company (SCE) Energy Cost Adjustment Clause (ECAC), Application (A.) 88-02-016 by Administrative Law Judge's (ALJ) ruling:

1. Modification of the Target Capacity Factor (TCF) of its Nuclear Unit Incentive Procedure.
2. The review of its nuclear uranium enrichment contracts.

II. Request

In this application SDG&E requests that the Commission find its recorded ECAC expenses and gas and electric operations during the record period reasonable. The 1987-1988 record period covers May 1, 1987 through April 30, 1988.

III. Procedural Background

Hearings were held in San Diego on January 9 and in San Francisco on January 12, 1989. Division of Ratepayer Advocates (DRA) and SDG&E presented testimony. At the conclusion of hearings, the ALJ requested that the parties prepare proposed findings of fact and conclusions of law. DRA and SDG&E jointly prepared and submitted proposed findings and conclusions.

Although most of SDG&E's record period fuel batches were enriched prior to 1983, DRA withholds judgment on the costs of SDG&E's fuel batches enriched after 1982 and recommends that SDG&E be ordered to furnish a report on the international enrichment market, both historical and current. The report should justify why SDG&E relied on DOE rather than the apparently lower cost international enrichment market.

We conclude that enrichment costs prior to 1983 are reasonable since DOE was the only source available. We will order SDG&E to provide a report containing comparative information on enrichment costs incurred after 1982. We will consider the reasonableness of those costs in the next annual SDG&E ECAC proceeding.

d. Fabrication

DRA reviewed the fabrication costs by comparing them with past fabrication costs approved by the Commission and found them to be reasonable.

We conclude that fabrication costs for fuel used during this record period were reasonable.

e. Interim Storage

SONGS 1 spent fuel is currently in interim storage at General Electric Company's Morris, Illinois facility. Based on comparing these record period costs with past interim storage costs approved by the Commission, DRA finds the record period storage costs reasonable.

We conclude that the interim storage costs were reasonable for the record period.

f. Disposal Costs

The disposal costs were incurred as a result of the Nuclear Waste Policy Act of 1982 which set a rate of 1 mill per kilowatt-hour (KWh) of nuclear generation.

DRA believes that these costs are reasonable since SDG&E has no control over them.

Compliance Division (CACD). Since time constraints prevented CACD from performing a timely review, SDG&E was allowed to make the refund on an estimated basis with a true-up to be made at a later date. SDG&E began customer refunds in the June 1988 billing period based on an estimated 1987 refund of \$14,987,171, including interest, through June 15, 1988.

SDG&E, in its 1988 attrition filing, estimated the 1988 revenue requirements effect to be a reduction of \$39,792,700. DRA recommends that the true-up adjustment for both 1987 and 1988 be reflected in SDG&E's ERAM balancing account.

We conclude that the true-up should be made for 1987 and 1988 tax effects. We will order SDG&E to file an advice letter for the true-up amount including interest from June 16, 1988.

9. Annual Energy Rate (AER) Earnings

DRA compared SDG&E's cumulative AER revenues and expenses and compared the results with the AER earnings limitation cap. The AER overcollection of \$4,349,956 is well within the cap of \$14,148,039 for the record period. We conclude that no adjustment to AER earnings is appropriate.

Findings of Fact

1. SDG&E filed A.88-07-003 on July 1, 1988 requesting, among other things, that the Commission review and find reasonable its recorded electric and gas energy costs under the ECAC for the May 1, 1987 through April 30, 1988 record period.

2. SDG&E also requested that the Commission review and find reasonable its gas and electric operations during the May 1, 1987 through April 30, 1988 record period.

3. In the prior ECAC A.87-07-009, the reasonableness review of purchased power operations and expenses, except for payments to QFs, was deferred until review of this 1987-1988 record period.

4. A.88-07-003 was split into three phases. Phase I involved forecast issues and resulted in D.88-12-034. Phase II addresses the reasonableness of recorded ECAC expenses and gas and

electric operations during the record period, except for purchased power issues. Purchased power issues are deferred to Phase III due to their interrelationship with Southwest Power Link issues.

5. SDG&E is a 20% owner of SONGS Units 1, 2, and 3.
6. The issue of modifying the TCF of the Nuclear Unit Incentive Procedure was consolidated with the reasonableness phase of the SCE ECAC A.88-02-016.
7. SONGS Units 1 and 3 did not complete a fuel cycle during the record period.
8. Songs Unit 2 completed fuel cycle 3 during the record period.
9. The SONGS Unit 2 TCF dead band range is 55% to 80%.
10. SONGS Unit 2 operated at a CF of 81.70% during the review period, making it eligible for a Nuclear Unit Incentive Procedure reward.
11. SDG&E and DRA agree that the appropriate Nuclear Unit Incentive Procedure reward for the record period is \$352,908.
12. D.87-10-042 modified the review procedure for uranium purchases, requiring reasonableness review as soon as possible after purchase, rather than when expensed.
13. Prior to 1983 all enrichment in the United States was done by the DOE.
14. DRA recommends, and SDG&E does not oppose, that an investigation be conducted into the reasonableness of SDG&E's uranium enrichment costs.
15. DRA concludes that SDG&E's nuclear operations during the record period were reasonable.
16. Natural gas was the fossil fuel of choice during the record period due to low cost.
17. SDG&E purchased gas from SoCal to meet the requirements of its noninterruptible core customers.

18. SDG&E met 49% of gas system requirements with spot gas at an average cost of \$1.76/MMBtu plus transportation. This gas primarily served interruptible and cogeneration customers.

19. SDG&E's lost and unaccounted for gas declined from a five-year average of 1.2% to a record period 0.468%.

20. DRA concludes that SDG&E's gas operations were reasonable.

21. SDG&E purchased 217,000 bbl of LSFO at \$14.96/bbl delivered, to replace some of the LSFO it burned during the period of gas curtailment.

22. SDG&E purchased 23,000 gallons of distillate oil during the record period.

23. SDG&E's fuel oil inventory level exceeded the authorized level during the record period, and incurred an inventory carrying cost \$7,799 higher than authorized by the Commission.

24. D.87-01-051 allows SDG&E to recover the carrying costs for excess fuel oil in inventory upon a sufficient showing of reasonableness.

25. DRA and SDG&E conclude that it would have been uneconomic for SDG&E to have reduced its fuel oil inventory to the authorized level.

26. DRA concludes that SDG&E's fuel oil procurement and inventory management during the record period are reasonable.

27. SDG&E's system has nine fossil fuel power plants with a total of 28 units.

28. Fossil fuel units generated 33% of SDG&E's system requirements during the record period.

29. The EAF for SDG&E's fossil fuel units was 88.7% during the record period compared to 85.9% during the prior record period.

30. SDG&E's heat rate deviation at 38 Btu/kWh during the record period was well within the bandwidth of 151 Btu/kWh.

31. The purchases were made from 84 QFs with Standard Offer contracts and the Aeolus, Immel, and Kelco nonstandard contracts.

32. DRA reviewed the SDG&E purchases and payments made pursuant to the standard and nonstandard contracts and found them to be reasonable.

33. DRA believes that the equity adjustment of \$3,170,960 under the cogeneration contract with EFI is reasonable.

34. DRA found SDG&E's fossil fuel power plant operations to be reasonable during the record period.

35. SDG&E reached an agreement with Chevron/Unocal on questionable charges for steam at the Heber geothermal power plant, resulting in a \$306,360 credit to the ECAC balancing account.

36. DRA recommends, and SDG&E does not oppose, that an additional \$29,757 credit be made to the ECAC balancing account for interest related to the \$306,360 credit.

37. DRA and SDG&E agree that any true-up made due to SDG&E's estimate of the 1987 and 1988 tax reduction due to the Tax Reform Act of 1986 and the California Bank and Corporation Tax Fairness, Simplification, and Conformity Act of 1987 be recorded in the ERAM balancing account (plus interest beginning June 16, 1988), after filing and approval of an advice letter.

38. SDG&E's cumulative AER overcollection of \$4,349,956 is within the AER earnings limitation cap of \$14,148,039 for the record period.

Conclusions of Law

1. SDG&E's expenses and operations, both gas and electric, are found to be reasonable for the record period with the following exceptions:

- a. The purchase power issues, including contract administration, deferred to Phase III of this proceeding.
- b. Nuclear uranium enrichment expenses are to be examined in the SCE ECAC in which SCE's nuclear uranium enrichment expenses are examined.

- c. The failure to credit the ECAC balancing account with an additional \$29,757 interest credit.

2. SDG&E is entitled to a Nuclear Unit Incentive Procedure reward of \$352,908 for SONGS Unit 2.

3. SDG&E should file a report with the Commission on the reasonableness of its nuclear enrichment costs for the period beginning 1983.

4. SDG&E reasonably incurred excess fuel oil inventory costs in the amount of \$7,799.

5. SDG&E should file an advice letter to record in the ERAM balancing account the true-up of SDG&E's estimate of the 1987 and 1988 revenue requirement reductions due to the Tax Reform Act of 1986 and the California Bank and Corporation Tax Fairness, Simplification, and Conformity Act of 1987.

ORDER

IT IS ORDERED that:

1. San Diego Gas & Electric Company (SDG&E) is authorized to record a debit of \$352,908 in its Energy Cost Adjustment Clause (ECAC) balancing account to reflect the approved Nuclear Unit Incentive Procedure reward for San Onofre Nuclear Generating Station (SONGS) Unit 2 for the May 1, 1987 through April 30, 1988 record period.

2. SDG&E shall provide a report on its nuclear enrichment costs for the period January 1, 1983 through the end of this record period, April 30, 1988, in its next annual ECAC filing.

3. SDG&E is authorized to record a debit of \$7,799 in its ECAC balancing account to reflect approval of the excess fuel oil inventory costs incurred during the record period.

4. SDG&E shall record a credit of \$29,757 in its ECAC balancing account to reflect the interest on the credit resulting

from the agreement on questionable Heber geothermal power plant steam charges.

5. SDG&E shall file an advice letter to reflect true-up of the 1987 and 1988 revenue requirement reduction resulting from the Tax Reform Act of 1986 and the California Bank and Corporation Tax Fairness, Simplification, and Conformity Act of 1987, including interest from June 16, 1988 at the Electric Revenue Adjustment Mechanism balancing account rate.

6. Purchased power and associated costs and operations will be addressed for reasonableness in Phase III of this proceeding.

This order is effective today.

Dated _____, at San Francisco, California.