

Decision 84 05 057 May 16, 1984

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of San Diego Gas & Electric Company for an order approving an agreement for power purchase and interconnection between San Diego Gas & Electric Company and North County Resource Recovery Associates.

Application 83-12-64  
(Filed December 30, 1983)

O P I N I O N

I. Summary

By Application (A.) 83-12-64, San Diego Gas & Electric Company (SDG&E) requests approval of a Power Purchase and Interconnection Agreement (Agreement) between SDG&E and North County Resource Recovery Associates (NCRRA). The Commission staff (staff) reviewed the application and analyzed both the technical and economic risks of the Agreement. After review staff recommended approval of the Agreement.

By this order, we approve the Agreement between SDG&E and NCRRA. Payments for energy received under the Agreement shall be included in SDG&E's Energy Cost Adjustment Clause (ECAC). The reasonableness of SDG&E's performance under the Agreement will be reviewed in the annual ECAC reasonableness review.

II. Project Description

NCRRA intends to build a waste-to-energy (WTE) powerplant with a gross capacity of 34 to 38 MW on the San Marcos landfill in Northern San Diego County. NCRRA is a joint venture comprised of subsidiaries of SCA Services, Inc. and Thermo Electron Corporation. NCRRA has obtained the contractual rights to construct a resource recovery facility at the San Marcos landfill from the County of San Diego.

The project is expected to cost about \$120 million.

Project financing will involve solid waste revenue bonds issued by

the California Pollution Control Financing Authority and leveraged lease equity. Lehman Brothers Kuhn Loeb, Inc. is assisting NCRRA with the financing structure.

The powerplant's components can be broken down into three categories: (1) fuel processing, (2) steam boiler/turbine-generator, and (3) flue gas cleaning. The fuel processing equipment will consist of conventional equipment including a trommel, shredder, and magnetic separator. The steam boiler will use a traveling grate stoker and will have a membrane-wall similar to other boilers which burn refuse fuel. The turbine-generator will be a conventional condensing turbine-generator. The flue gas cleaning system will use a dry scrubber coupled with a fabric filter.

Construction is scheduled to begin in July 1984, and completion of construction is expected by August 1986. Commercial operation of the plant is scheduled for December 1986.

### III. Nonstandard Contract Provisions

SDG&E seeks Commission approval of the Agreement because it contains the following nonstandard pricing provisions.

The price for energy is set for the period January 1, 1986 through July 31, 1986 at 6.2¢/kWh (Base Price). Every six months thereafter, the Base Price is adjusted by the percentage change in the Gross National Product Implicit Price Deflator (GNP). However, every five years the price may be increased or decreased if at least a 20% difference between the adjusted Base Price and SDG&E's avoided cost at that time should exist. If the adjusted Base Price is at least 20% above SDG&E's avoided cost, then the price will be decreased by 50% of the difference. Conversely if the adjusted Base Price is at least 20% below SDG&E's avoided cost, then the price will be increased by 45% of the difference.

NCRRA also has the option of switching from the above-described price formula to a schedule of prices based partly upon

90% of SDG&E's forecast prices appearing in its Standard Offer No. 4 (Scheduled Prices). The Scheduled Prices begin at 8.3¢/kWh in 1991, increase each year to 17.2¢/kWh in 2003, and remain at 17.2¢/kWh for the term of the Agreement. However, the Agreement further provides that a price payable for energy by SDG&E under the Scheduled Prices cannot exceed the current adjusted Base Price.

These nonstandard pricing provisions were negotiated to enhance financing of the project. NCRRA believes that prospective investors will have a better understanding of a price tied to the GNP than a price based only on SDG&E's avoided cost.

#### IV. SDG&E's Risk Benefit Analysis

SDG&E analyzed the risks and benefits of the Agreement by comparing projected results of the nonstandard pricing provisions with the Standard Offer No. 4 contract. SDG&E made this comparison since NCRRA has the option of signing the Long Run Standard Offer recently approved as Standard Offer No. 4.

SDG&E examined seven cases using different assumptions for its avoided cost escalation rate, the GNP escalation rate, and its short run avoided cost in 1986. Under most of these cases, SDG&E finds that its ratepayers will be better off under the Agreement than under Standard Offer No. 4. SDG&E's comparison of projected payments is shown as Table 1.

TABLE 1

SDG&E Analysis

Projected Payments under 7 Inflation Scenarios  
Summary (Net Present Value)  
(\$1000)

Case <sup>1/</sup>	First 10 Years			First 20 Years			30-Year Term		
	Standard Offer # 4	NCRRA Contract	Difference	Standard Offer # 4	NCRRA Contract	Difference	Standard Offer # 4	NCRRA Contract	Difference
Base	68,932	67,532	1,400	101,807	98,875	2,932	116,339	112,701	3,638
High	68,932	75,071	-6,139	125,208	121,730	3,478	161,561	151,284	10,277
Low	68,932	61,006	7,926	87,241	83,099	4,142	92,806	90,467	2,339
Hi-Hi	68,932	76,100	-7,168	140,623	129,059	11,564	196,332	168,839	27,493
Lo-Lo	68,932	61,006	7,926	83,739	83,099	640	87,545	90,467	- 2,922
Hi-Lo	68,932	64,101	4,831	118,823	97,531	21,292	148,177	116,339	31,838
Lo-Hi	68,932	68,689	243	89,359	98,149	- 8,790	96,147	106,943	-10,796

<sup>1/</sup> The general assumptions for each of the seven cases are shown on the next page.

TABLE 1  
(contd.)General Assumptions

<u>Case</u>	<u>Typical Avoided Cost Escalation Rate (%)</u>	<u>General Inflation Rates (%) (NCRRA Contract)</u>	<u>Assumed 1986 Short Run Avoided Cost (Cent/kWh)</u>
Base	6.5	6.5	6.4
High	10.5	9.5	7.1
Low	2.5	3.5	5.7
Hi-Hi	12.5	9.5	7.1
Lo-Lo	.5	3.5	5.7
Hi-Lo	9.5	3.5	7.1
Lo-Hi	3.5	9.5	5.7

V. Staff Review

Staff reviewed both the technical and economic risks presented by this project. The Utilities Division Resources Planning and Projects Branch, Alternative Generation Section did the technical risk analysis. The Rate Design and Economics Branch, Economics and Computer Application Section prepared the economic assessment.

A. Technical Risk Analysis

Staff notes that the number of WTE powerplants actually operating in the United States is very small. However, much of the WTE technology has been successfully demonstrated in Europe and Japan.

Staff divides WTE technology into four areas: fuel preparation, combustion process, turbine-generator, and air pollution abatement system.

Staff then comments on two aspects of NCRRA's project. First, staff notes that NCRRA intends to combine a fuel preparation system, a combustion system, and an air pollution abatement system which never have been used together. Staff believes that this "first time combination could create some serious technical problems".

Second, staff asserts that NCRRA's plan to use a "rather complex fuel preparation system, including the use of 'hand-pickers'" could cause problems. Staff points out that most experts recommend mass burning of refuse fuel to avoid any handling of the refuse.

Despite these two concerns, staff concludes that the Agreement effectively removes any risk of unreliable performance. Staff states that the initial price paid to NCRRA will be below SDG&E's avoided cost.<sup>1</sup> In addition, staff points out that capacity payments will be made on an "as-available" basis during the first eighteen months.<sup>2</sup> Staff then concludes that "a plant failure before the end of the contractual term most likely will not result in losses to the ratepayers".

B. Economic Risk Assessment

Staff also evaluated the economic risk by comparing the Agreement to Standard Offer No. 4. Staff believes this is a reasonable comparison since NCRRA does have the option to sign this standard offer.

Staff expanded SDG&E's analysis to include additional inflation scenarios and then calculated the present values of the predicted differentials. Two sets of differentials were calculated, one based on historical rates and the other on projected rates. Staff concludes from this analysis that the nonstandard pricing provisions are likely to result in payments less than Standard Offer No. 4 over the life of the Agreement. Staff's economic assessment is shown as Table 2.

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<sup>1</sup> Staff apparently assumes that the GNP adjustments on June 30, 1986 and December 31, 1986 to the Base Price of 6.2¢/kWh will not have increased the price above SDG&E's avoided cost when the plant starts commercial operation.

<sup>2</sup> The Agreement does provide that if SDG&E and NCRRA agree that the plant is capable of reliable delivery of energy and firm capacity, then capacity payments will be based on a payment schedule for firm capacity qualifying facilities.

TABLE 2

Staff Economic Assessment

San Diego Gas & Electric/NCRRA Contract  
 Total Revenue of Selected Cases, Scheduled Price  
 Option in Effect, 1984\$, 15% Discount Rate, 30-Year Contract,  
 Energy Payments Only

<u>Case</u>	<u>PV of Total Revenues-NCRRA</u>	<u>PV of Total Revenues-S04</u>	<u>% Difference</u>	
Base*	\$ 96,986,476	\$ 99,993,056	3.1%	
Average Historical	GNP ESC BASE-1.21%	87,992,364	99,032,611	11.15%
Average Forecast	GNP=BASE-.5% AC=BASE+3%	110,900,000	132,460,000	16.27%
"WORST"	GNP=BASE+6% AC=BASE-6%	93,541,385	71,831,385	-30.22%
"BEST"	GNP=BASE-6% AC=BASE+6%	108,790,000	180,610,000	39.77%

\* Same as Base Case used by SDG&E in Table 1.

Staff also comments that the risk of technological failure is minimal. Staff states that under the Agreement NCRRA is responsible if a plant outage is caused by design defect, operational error, inadequate construction of the plant, or lower than anticipated Btu content of the waste. Therefore, staff believes that SDG&E should pay only for delivered power and is not at risk for technological difficulties under these circumstances.

VI. Discussion

This application is given ex parte treatment since it has been thoroughly reviewed by our staff and given their approval. Staff agrees with SDG&E that the nonstandard pricing provisions should be more beneficial to the ratepayer than the Standard Offer No. 4. ✓

We will follow our staff's recommendation and approve the Agreement's nonstandard pricing provisions as requested by SDG&E. We find based upon SDG&E's application and our staff's report that the

Agreement's nonstandard pricing provisions in the most likely cases will call for energy payments less than Standard Offer No. 4.

Findings of Fact

1. SDG&E has negotiated nonstandard pricing provisions with NCRRA.

2. NCRRA intends to build a WTE powerplant and sell the power to SDG&E according to those nonstandard pricing provisions.

3. NCRRA has the option of signing Standard Offer No. 4.

4. The nonstandard pricing provisions should result in energy payments less than the payments that would be made under Standard Offer No. 4.

5. The economic and technical risk posed by the nonstandard pricing provisions does not exceed the risk that would exist under Standard Offer No. 4.

Conclusions of Law

1. The nonstandard pricing provisions in the Agreement are reasonable and prudent.

2. Payments under the Agreement should be included in SDG&E's ECAC, subject only to a reasonableness review of SDG&E's performance under the Agreement.



O R D E R

IT IS ORDERED that:

1. The Agreement between San Diego Gas & Electric Company and North County Resource Recovery Associates is reasonable; the nonstandard pricing provisions are approved.

2. Payments under the Agreement shall be included in ECAC, subject to reasonableness review of SDG&E's performance under the Agreement.

This order becomes effective 30 days from today.

Dated MAY 16 1984, at San Francisco, California.

LEONARD M. GRIMES, JR.  
President

VICTOR CALVO

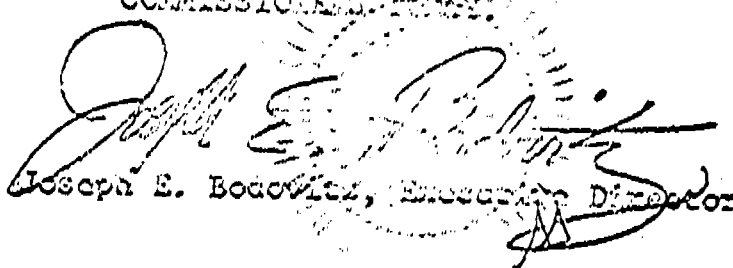
PRISCILLA C. GREW

DONALD VIAL

Commissioners

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

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

  
Joseph E. Bodovitz, Executive Director

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