

**RETURN TO ENERGY BRANCH  
ROOM 3102**

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

COMMISSION ADVISORY  
AND COMPLIANCE DIVISION  
Energy Branch

RESOLUTION E-3078  
March 23, 1988

**R E S O L U T I O N**

RESOLUTION E-3078. SAN DIEGO GAS AND ELECTRIC (SDG&E), ELECTRIC DEPT. AUTHORIZATION TO REVISE THE ELECTRIC BASE REVENUE TO OFFSET SDG&E'S PORTION OF THE 1988 PROJECTED EXPENDITURES FOR THE HEBER BINARY PROJECT.  
(Advice Letter 731-E, Filed January 27, 1988).

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**SUMMARY**

1. By Advice Letter 731-E filed January 27, 1988, San Diego Gas and Electric (SDG&E) requests authorization to revise the Electric Authorized Base Rate Revenue to offset SDG&E's portion of the 1988 projected expenditures for the Heber Binary Project.
2. SDG&E proposes to change the Authorized Base Rate Revenue amount, but not to change rates at this time, in the same manner as previously authorized by Resolution E-3031, dated April 22, 1987, in order to minimize the number of rate changes this year. This resolution grants the request, effective April 1, 1988.

**BACKGROUND**

3. The Heber Binary Project is an experimental 50 Megawatt geothermal power plant located at Heber, Imperial County, California. The plant is a joint venture managed by SDG&E. It uses a binary cycle which takes hot geothermal brine through a heat exchanger to vaporize a hydrocarbon liquid which drives a turbine electric generator. The brine, then somewhat cooled, is reinjected into the earth via separate dry wells.
4. This experimental project which started in 1980, was divided into three phases: Construction, Demonstration and Commercial Operation. The original estimate of the total project costs through the demonstration phase was \$188 million which included the cost of developing the geothermal brine through this phase. Construction was completed in 1985. The plant was operated in a low-power phase from June 1985 through June 1987. The Heber plant is now shut-down in a "caretaker" storage phase.

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5. In addition to SDG&E there were six other participants in the project with the following percentages of participation and maximum commitments of funding:

<u>Participants</u>	<u>Percent Participation</u>	<u>Maximum Commitment</u>
SDG&E	31.3	Unlimited
U.S. Department of Energy	50.0	\$61 Million
Electric Power Research Institute	10.0	\$12.7 Million
Imperial Irrigation District	3.8	Unlimited
Southern California Edison Company	2.0	\$2.5 Million
Calif. Department of Water Resources	1.2	Unlimited <sup>1/</sup>
State of California	1.7	\$2.0 Million
	<u>100.0%</u>	<u>\$188 Million</u> (Approx.)

<sup>1/</sup> The California Department of Water Resources subsequently became a non-owner and is limiting its participation.

6. This filing is made pursuant to Ordering Paragraph 4 of Decision 91271, dated January 29, 1980 in Application 59280, and Decision 93892, dated December 30, 1981, in Application 59788.

7. Decision 83-05-047 issued May 18, 1983 in Application 82-08-049 provided for continued funding of the project for SDG&E with an established limit of \$89.7 million.

8. In the following years, the Commission has authorized SDG&E, by resolution, to recover in rates annual expenses for the Heber Project in amounts ranging from \$5 million to \$7 million each year, through March 31, 1988.

9. For the period from April 1, 1988 through December 31, 1988, SDG&E estimates its expenditures to be \$2,475,300. These expenditures are detailed in Attachment A to this Resolution.

10. In 1987, SDG&E experienced difficulties in operating the Heber Plant due primarily to an insufficient supply of hot brine from the wells which were not under SDG&E's direct control. In view of these difficulties and for other reasons, SDG&E decided to shut down the plant operation and place it in storage with a minimum of on-going expense.

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11. Following the shut-down of the operations, SDG&E made a further decision to sell its interest in the Heber Project. This Resolution is concerned only with authorization of SDG&E's on-going Heber Project expenses for 1988 in its present state through December 31, 1988, and is not related in any way to the proposed sale. We will, however, make the Base Rate Revenue adjustment, authorized herein, subject to further review or revision contingent upon SDG&E completing a sale of the Heber Binary Project.

#### DISCUSSION

12. The purpose of this filing is to revise the Authorized Base Rate Revenue to offset SDG&E's portion of the 1988 projected expenditures for the project. SDG&E proposes to change the Authorized Base Rate Revenue but not change rates at this time, in order to minimize the number of electric rate changes this year. Any under or overcollection will be recovered through the Electric Revenue Adjustment Mechanism (ERAM).

13. Attachment B shows the calculation of the net decrease of \$14,911,200 in SDG&E's base rate revenue requirement related to the project.

14. As of December 31, 1987, SDG&E's ERAM Balancing Account reflected an undercollection of \$32.4 million. The corresponding overcollection related to Heber of \$14.9 million, if carried in SDG&E's ERAM Balancing Account, would continue to accrue in ERAM until the next ERAM scheduled revision date. By allowing the Heber adjustment to be reflected in the Base Rate Revenue (and thereby accrue to ERAM) without an immediate rate change, the present ERAM undercollection will be reduced.

15. The overcollection in the Heber Balancing Account, which SDG&E maintains as an internal memorandum account, would then be almost fully amortized by year-end 1988, assuming that SDG&E's estimated expenditures for Heber for 1988 are accurate.

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16. Implementation of SDG&E's 1988 Heber Binary Project adjustment necessitates the revision of the Authorized Base Rate Revenue amount set forth in Section 13.(b)(2) of SDG&E's Electric Department Preliminary Statement. The Authorized Base Rate Revenue amount for SDG&E will be \$764,701,488 if this request is granted as of April 1, 1988. The development of this amount is as follows:

(1.)	1988 Authorized Base Rate Revenue effective January 1, 1988 (pursuant to D.87-12-065)	\$779,612,688
(2.)	Proposed 1988 Heber Binary Project Adjustment	\$(14,911,200)
(3.)	1988 Authorized Base Rate Revenue effective April 1, 1988	\$764,701,488

17. SDG&E requests that the tariff sheets submitted by this filing be made effective for service rendered on or after April 1, 1988.

#### FINDINGS

18. The Commission Advisory and Compliance Division has reviewed this filing and recommends its approval.

19. The Base Rate Revenue revisions authorized in this Resolution shall be made subject to further adjustment or revision when and if SDG&E completes the proposed sale of its interest in the Heber Binary Project.

20. Public notification of this filing has been made by mailing copies to other utilities, governmental agencies and to all interested parties who requested such notification.

21. No protests have been received in this matter.

#### THEREFORE:

1. San Diego Gas and Electric Company is authorized by Section V.A. of General Order 96-A to place Advice Letter No. 731-E and the accompanying tariff sheets into effect on April 1, 1988.

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2. The Base Rate Revenue adjustment for the Heber Project authorized herein is to remain in effect until December 31, 1988, and will be subject to further revision by the Commission if San Diego Gas and Electric completes a sale of its portion of the Heber Binary Project prior to that date.

3. The above advice letter and tariff sheets shall be marked to show that they were accepted for filing by Commission Resolution E-3078. This Resolution is effective today.

I certify that this Resolution was adopted by the Public Utilities Commission at its regular meeting on March 23, 1988. The following Commissioners approved it:

STANLEY W. HULETT  
President  
DONALD VIAL  
FREDERICK R. DUDA  
G. MITCHELL WILK  
JOHN B. OHANIAN  
Commissioners



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Executive Director

Attachments: A,B.

## HEBER BINARY PROJECT

Attachment A

## 1988 EXPENDITURES

The estimated Heber RD&D costs for 1988 based on the 1987 Estimate are as follows:

(\$ x 1,000)

Project Management	\$ 326.7
Cost Center support in sales activities	62.6
Litigation with heat suppliers	512.9
Plant storage labor	808.8
Plant storage other	470.9
Property Insurance	112.8
Rent	28.9
Carryover 1987 expenses	<u>151.7</u>
Total SDG&E's 1988 Heber RD&D Cost	\$2,475.3

The above reflects SDG&E's share (89.2%) of project expenses and excludes Administrative and General, Employee Benefits, and Ad Valorem Taxes.

San Diego Gas & Electric Company  
Heber Binary Project  
Development of Reduced Revenue Requirement

	<u>UNITS</u>	<u>AMOUNT</u>
1. Estimated Expenses in 1988 (Attachment C, Page 2 of 2)	M\$	2,475.3
2. Heber Balancing Account Overcollection as of January 1, 1988 (Attachment B, Page 2 of 2)	M\$	817.0
3. Underspending of 1987 R&D Expenses	M\$	30.0
4. Expenses Reflected in Rates as of January 1, 1988 (including Heber Balancing Account Amortizations)	M\$	12,486.0
5. Proposed Net Decrease in Revenue Requirement (Line 1 - Line 2 - Line 3 - Line 4)	M\$	(10,857.7)
6. Proposed Net Decrease in Revenue Requirement Adjusted for Franchise Fees and Uncollectibles (Line 5 x 1.0126)	M\$	(10,994.5)
7. Proposed Net Decrease in Revenue Requirement Adjusted for San Diego City Franchise Fee Differential (Line 6 x 1.00918)	M\$	(11,095.4)
8. Proposed Net Decrease in Revenue Requirement Adjusted for recovery from April - December 1988 (Line 7 ÷ .7441)	M\$	(14,911.2)