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January 14, 2005

To All Parties of Record in A.04-02-026

Re: SONGS 2 & 3 Steam Generator Replacement Application; SDG&E Errata

Please find enclosed San Diego Gas & Electric Company's errata to the direct testimony of SDG&E's Mr. Michael Schneider together with workpapers. Copies of this errata and workpapers are being electronically delivered to all parties of record and ALJ O'Donnell today. Hard copies will be mailed on January 18<sup>th</sup> because of the special printing requirements applicable to the workpapers that preclude mailing today.

Sincerely,

A handwritten signature in cursive script that reads "James F. Walsh". The signature is written in black ink and is positioned above the typed name.

James F. Walsh  
Attorney for  
San Diego Gas & Electric Company

Enclosures

JFW:cj

Application of Southern California Edison )  
Company (U 338-E) for Authorization: )  
(1) to replace San Onofre Nuclear )  
(SONGS 2 & 3) steam generators; (2) )  
establish ratemaking for cost recovery; and )  
(3) address other related steam generator )  
replacement issues. )  
\_\_\_\_\_ )

Application No. 04-02-026  
Exhibit No.: (SDG&E-4)  
Witness: Michael M. Schneider

**ERRATA TO  
PREPARED DIRECT TESTIMONY  
OF MICHAEL M. SCHNEIDER  
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

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

**January 14, 2005**

1 SCE in 2004, and SCE would accept responsibility for all future decommissioning costs  
2 associated with SDG&E's current 20% ownership share. Finally, SDG&E would enter  
3 into a PPA with SCE in 2004 to provide SDG&E's customers a fixed amount of energy  
4 each year through 2022.

5 Analysis for Alternative 3 includes all costs identified under Alternative 1,  
6 including SDG&E's 20% share of SONGS O&M and fuel, as well as SDG&E's  
7 projected SONGS depreciation, return, and NDT contributions. However under  
8 Alternative 3 these costs would be paid by SCE and recovered from SDG&E through the  
9 PPA. Therefore the cost of the PPA expressed in 2004 present value dollars, is equal to  
10 the 2004 present value of all costs associated with Alternative 1.

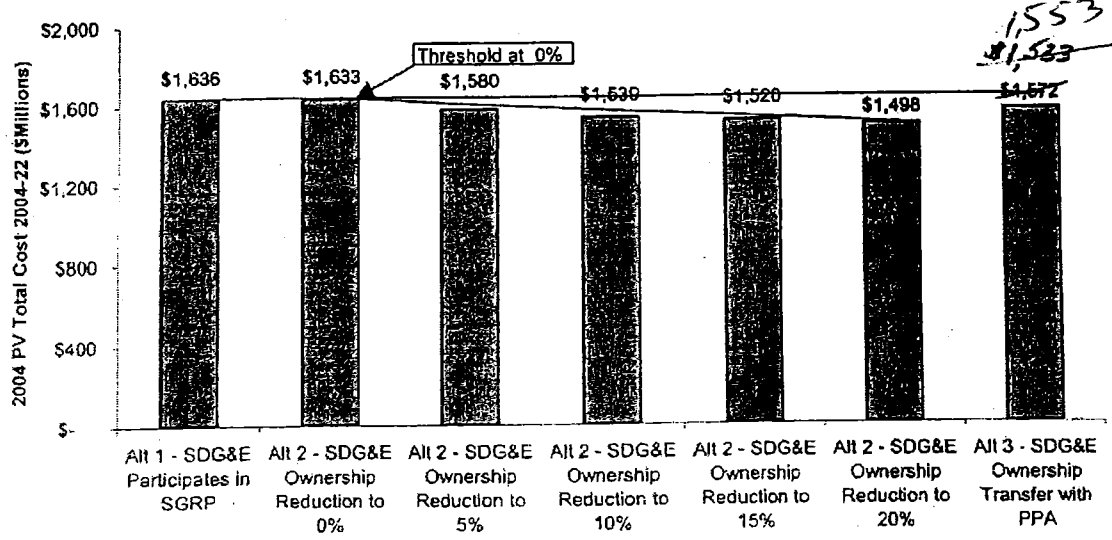
11 Under the PPA, SCE would provide to SDG&E a fixed amount of energy  
12 equivalent to SDG&E's current 430 MW entitlement in SONGS at a capacity factor of  
13 91.8%. That capacity factor was chosen because it is equal to the historic average of  
14 SONGS 2&3 capacity factors over the past 5 years (1999-2003). Since this capacity  
15 factor is greater than the capacity factor projected by SCE in their cost-effectiveness  
16 study (88%), Alternative 3 would result in somewhat more energy being delivered to  
17 SDG&E than Alternative 1. Therefore, while the total 2004\$ cost of the PPA would  
18 equal the total 2004\$ cost of Alternative 1, the total 2004\$ cost of Alternative 3 is  
19 somewhat less than the total 2004\$ cost of Alternative 1 because it includes the value of  
20 this increased energy. As shown in Attachment 1 the value of this increased energy is  
21 estimated to be \$102.3 million (2004\$).

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1 power plant. However, as indicated from the sensitivity analysis conducted in Section  
 2 VI-D and Figure 2 below, the Geothermal PPA would be cost-effective only if SDG&E's  
 3 ownership share of SONGS remains above 15%. The Geothermal PPA option has added  
 4 benefits of providing continued fuel diversity to SDG&E's generation portfolio as well as  
 5 supporting the State's energy policy of requiring higher levels of renewable resources for  
 6 future energy and capacity supply. These benefits should be considered in addition to the  
 7 cost-effective analysis and provide a premium such that even if SDG&E's ownership in  
 8 SONGS falls below 15%, a Geothermal PPA would be preferred over participation in the  
 9 SGRP.

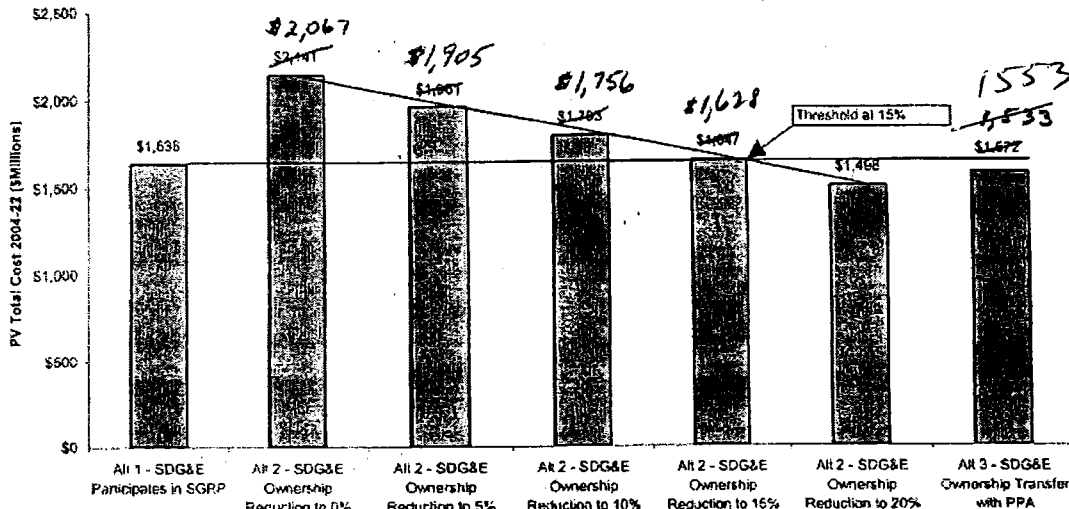
10 Alternative 1 is SDG&E's third preference. Under Alternative 1, SDG&E  
 11 would continue to keep its 20% ownership percentage in SONGS, while SCE goes  
 12 forward with the SGRP.

FIGURE 1  
 TOTAL COST OF SDG&E ALTERNATIVES (2004\$, MILLIONS)  
 BASED ON CTCC REPLACEMENT GENERATION



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**FIGURE 2**  
**TOTAL COST OF SDG&E ALTERNATIVES (2004\$, MILLIONS)**  
**BASED ON GEOTHERMAL REPLACEMENT GENERATION**



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**VIII. DIFFERENCES BETWEEN SCE'S AND SDG&E'S ANALYSES**

This section compares SDG&E's Economic Analysis to SCE's Cost-Effectiveness Study (SCE-4) by highlighting the key differences between the two studies in terms of purpose, methodology, assumptions, and results.

The purpose of SDG&E's analysis is not to determine if the SGRP is cost-effective, but whether it is cost-effective for SDG&E to participate in the SGRP. SDG&E's study is based on an assumption that the SGRP will go forward. The purpose of SCE's study on the other hand is to establish that the SGRP is cost-effective overall, and cost-effective to SCE's and SDG&E's customer groups individually.

SDG&E evaluated the following three alternatives:

- Alternative 1: "SDG&E Participates in SGRP"
- Alternative 2: "SDG&E Ownership Reduction"
- Alternative 3: "SDG&E Ownership Transfer with PPA"

Attachment - I

Total Cost of SDG&E Alternatives (2004\$, Thousands)  
Based on CTCC Replacement Generation

Description	Alternative 1 SDG&E Participates in SGRP				Alternative 2 SDG&E Ownership Reduction In:				Alternative 3 SDG&E Ownership Transfer with PPA	
	0%	5%	10%	15%	20%	5%	10%	15%	20%	
Fuel Costs	\$ 180,602	\$ 708,147	\$ 576,261	\$ 444,375	\$ 312,489	\$ 180,602	\$ 180,602	\$ 180,602	\$ 180,602	\$ 180,602
Operating & Maintenance	\$ 1,002,422	\$ 510,775	\$ 633,687	\$ 756,598	\$ 879,510	\$ 1,002,422	\$ 1,002,422	\$ 1,002,422	\$ 1,002,422	\$ 1,002,422
NDT Contributions	\$ 76,763	\$ -	\$ -	\$ 12,439	\$ 45,636	\$ 76,763	\$ 76,763	\$ 76,763	\$ 76,763	\$ 76,763
Capital - Routine (non-SGRP)	\$ 238,035	\$ 127,975	\$ 155,490	\$ 183,005	\$ 210,520	\$ 238,035	\$ 238,035	\$ 238,035	\$ 238,035	\$ 238,035
Capital - SGRP	\$ 137,796	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 137,796
Capital - CTCC Power Plant	\$ -	\$ 286,014	\$ 214,510	\$ 143,007	\$ 71,503	\$ -	\$ -	\$ -	\$ -	\$ -
Capital - Transmission Mitigation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Value of Additional Energy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (63,493)
Total 2004 NPV \$	\$ 1,635,618	\$ 1,632,911	\$ 1,579,948	\$ 1,539,424	\$ 1,519,658	\$ 1,497,822	\$ 1,522,125	\$ 1,533,323	\$ 1,552,923	\$ (102,295)

Total Cost of SDG&E Alternatives (2004\$, Thousands)  
Based on Geothermal Replacement Generation

Description	Alternative 1 SDG&E Participates in SGRP				Alternative 2 SDG&E Ownership Reduction to:				Alternative 3 SDG&E Ownership Transfer with PPA	
	0%	5%	10%	15%	20%	5%	10%	15%	20%	
Fuel Costs	\$ 180,602	\$ 77,246	\$ 103,085	\$ 128,924	\$ 154,763	\$ 180,602	\$ 180,602	\$ 180,602	\$ 180,602	\$ 180,602
Operating & Maintenance	\$ 1,002,422	\$ 413,942	\$ 561,062	\$ 708,182	\$ 855,302	\$ 1,002,422	\$ 1,002,422	\$ 1,002,422	\$ 1,002,422	\$ 1,002,422
NDT Contributions	\$ 76,763	\$ -	\$ -	\$ 12,439	\$ 45,636	\$ 76,763	\$ 76,763	\$ 76,763	\$ 76,763	\$ 76,763
Capital - Routine (non-SGRP)	\$ 238,035	\$ 127,975	\$ 155,490	\$ 183,005	\$ 210,520	\$ 238,035	\$ 238,035	\$ 238,035	\$ 238,035	\$ 238,035
Capital - SGRP	\$ 137,796	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 137,796
Geothermal PPA	\$ -	\$ 1,447,640	\$ 1,447,640	\$ 723,820	\$ 380,345	\$ -	\$ -	\$ -	\$ -	\$ -
Capital - Transmission Mitigation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Value of Additional Energy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (63,493)
Total 2004 NPV \$	\$ 1,635,618	\$ 2,026,804	\$ 2,140,566	\$ 1,960,643	\$ 1,793,240	\$ 1,646,566	\$ 1,497,822	\$ 1,572,125	\$ 1,523,323	\$ 1,552,923

Attachment - 2

Total Cost of SDG&E Alternatives (2004\$/MWh)  
Based on CTCC Replacement Generation

Description	Alternative 1 SDG&E Participates in SGRP	Alternative 2 SDG&E Ownership Reduction to:				Alternative 3 SDG&E Ownership Transfer with PPA
		0%	5%	10%	15%	
Fuel Costs	\$ 2.92	\$ 11.45	\$ 9.32	\$ 7.18	\$ 5.05	\$ 2.92
Operating & Maintenance	\$ 16.20	\$ 8.26	\$ 10.24	\$ 12.23	\$ 14.22	\$ 16.20
NDT Contributions	\$ 1.24	\$ -	\$ -	\$ 0.20	\$ 0.74	\$ 1.24
Capital - Routine (non-SGRP)	\$ 3.85	\$ 2.07	\$ 2.51	\$ 2.96	\$ 3.40	\$ 3.85
Capital - SGRP	\$ 2.23	\$ -	\$ -	\$ -	\$ -	\$ 2.23
Capital - CTCC Power Plant	\$ -	\$ 4.62	\$ 3.47	\$ 2.31	\$ 1.16	\$ -
Capital - Transmission Mitigation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Value of Additional Energy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total NPV \$/MWh	\$ 26.44	\$ 26.40	\$ 25.54	\$ 24.89	\$ 24.57	\$ 24.21

*202 3.24*

*(1.65)*  
~~24.79~~  
*25.10*

Total Cost of SDG&E Alternatives (2004\$/MWh)  
Based on Geothermal Replacement Generation

Description	Alternative 1 SDG&E Participates in SGRP	Alternative 2 SDG&E Ownership Reduction to:				Alternative 3 SDG&E Ownership Transfer with PPA
		0%	5%	10%	15%	
Fuel Costs	\$ 2.92	\$ 1.25	\$ 1.67	\$ 2.08	\$ 2.50	\$ 2.92
Operating & Maintenance	\$ 16.20	\$ 6.69	\$ 9.07	\$ 11.45	\$ 13.83	\$ 16.20
NDT Contributions	\$ 1.24	\$ -	\$ -	\$ 0.20	\$ 0.74	\$ 1.24
Capital - Routine (non-SGRP)	\$ 3.85	\$ 2.07	\$ 2.51	\$ 2.96	\$ 3.40	\$ 3.85
Capital - SGRP	\$ 2.23	\$ -	\$ -	\$ -	\$ -	\$ 2.23
Geothermal PPA	\$ -	\$ 23.40	\$ 18.45	\$ 11.70	\$ 6.75	\$ -
Capital - Transmission Mitigation	\$ -	\$ -	\$ 17.55	\$ -	\$ 5.85	\$ -
Value of Additional Energy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total NPV \$/MWh	\$ 26.44	\$ 33.41	\$ 34.60	\$ 31.70	\$ 28.37	\$ 24.21

*202 3.24*

*24.79 25.10*

*30.80*