

Application No.: A.06-04-_____
Exhibit No.: SDG&E-1
Witness: James P. Avery

In the Matter of San Diego Gas & Electric Company's
Application for Authorization to (1) to Participate in
the Steam Generator Replacement Project As A Co-
Owner of San Onofre Nuclear Generating Station Unit
Nos. 2 & 3 (SONGS 2 & 3) ; (2) Establish Ratemaking
For Cost Recovery; and (3) Address Other Related
Steam Generator Replacement Issues

(U 902-E)

Application No. 06-04-_____

PREPARED DIRECT TESTIMONY

OF

JAMES P. AVERY

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

April 14, 2006

TABLE OF CONTENTS

I.	SUMMARY OF REQUEST	1
II.	SONGS 2 & 3 STEAM GENERATOR REPLACEMENT IS COST-EFFECTIVE AND BENEFICIAL FOR SDG&E's CUSTOMERS	4
III.	THE COMMISSION SHOULD ADOPT THE TWO-WAY SONGS O&M BALANCING ACCOUNT AND SDG&E's SONGS RETRUN ON EQUITY	7
IV.	QUALIFICATIONS	10

1 **PREPARED DIRECT TESTIMONY**

2 **PREPARED DIRECT TESTIMONY**

3 **OF**

4 **JAMES AVERY**

5
6 **I. SUMMARY OF REQUEST**

7 San Diego Gas & Electric Company (“SDG&E”) respectfully requests the California
8 Public Utilities Commission (“Commission”) to:

- 9 1. Find it reasonable for SDG&E to participate in the Steam Generator Replacement
10 Project (“SGRP”) at the San Onofre Nuclear Generating Station (“SONGS”) Units 2
11 & 3 assuming SDG&E’s ownership interest in SONGS remains at 20%;
- 12 2. Find that the reasonable cost estimate for SDG&E’s ownership share of SGRP costs
13 is \$142 million (2004\$) consisting of \$117 million (2004\$) for replacement steam
14 generator installation and \$25 million (2004\$) for removal and disposal of the
15 original steam generators, including allocated overheads and excluding accumulated
16 Allowance for Funds Used During Construction.¹ The \$142 million amount was
17 calculated by removing SCE’s overheads from the 100% level cost estimate, taking
18 SDG&E’s 20% share of that amount, and adding SCE’s contractual overheads and
19 SDG&E’s A&G. A more detailed explanation of this calculation appears in the
20 testimony of Michael Olson.
- 21 3. Establish ratemaking for SDG&E’s share of the SGRP costs, specifically including
22 the following:²

¹ This request conforms with the treatment provided SCE under D.05-12-040, Ordering Paragraph 3.

² Throughout this testimony SDG&E’s share of SGRP-related costs are expressed in 2004 dollars instead of 2006 dollars for ease of comparison with the corresponding 100% level costs contained in A.04-02-026 and D.05-12-040. Conversion of 2004 dollars to nominal dollars will be addressed in SDG&E’s application to include SGRP costs

- 1 a) An increase in SONGS 2 & 3 depreciation expense recorded to
2 SDG&E' Non-Fuel Generation Balancing Account (NGBA) and
3 recovered in SDG&E commodity rates (Schedule EECC, Electric
4 Energy Commodity Costs) of \$4.4 million (2004\$) (\$22.2 million
5 multiply by SDG&E's 20% ownership share) beginning in January
6 2007 (or when the Application is approved) and continuing through
7 2011 to provide for recovery of 20% of SDG&E's share of removal
8 and disposal of the original steam generators (Removal and Disposal
9 Costs)³ SDG&E's estimated first year cost to be recovered is \$1.02
10 million.
- 11 b) Consistent with the treatment provided SCE in D.05-12-040, eventual
12 recovery through rates of the associated revenue requirement on
13 SDG&E's share of SGRP costs which shall not exceed SDG&E's
14 ownership share of the maximum allowable 100% level SGRP cost of
15 \$782 million (2004\$) ("Maximum Allowable Amount") as adjusted
16 for allocated overheads, inflation, and cost of capital and excluding
17 accumulated Allowance for Funds Used During Construction.⁴
18 SDG&E's ownership share of the Maximum Allowable Amount is
19 \$163 million (2004\$), as identified in Mr. Olson's testimony;
- 20 c) A balancing account called the SONGS Major Additions Adjustment
21 Clause ("SONGS MAAC") in which SDG&E will record the revenue
22 requirements associated with its share of the steam generator

permanently in rates to be filed after completion of the SGRP on the same basis as set forth in D.05-12-040, Ordering Paragraphs 11 and 13.

³ This request conforms with the treatment provided SCE under D.05-12-040, Ordering Paragraph 12.

⁴ This request conforms with the treatment provided SCE under D.05-12-040, Ordering Paragraph 6.

1 installation cost for each Unit as of the date of operation of each Unit⁵
2 and the remaining balance, not collected under part 3(a) above, of its
3 share of removal and disposal of the original steam generators for each
4 Unit as of the date removal and disposal is completed;⁶

5 d) The revenue requirement recorded in the SONGS MAAC for its share
6 of steam generator installation cost will be transferred to the NGBA
7 for interim cost recovery on January 1 of the year following
8 commercial operation of each Unit through an advice letter;⁷

9 e) The revenue requirement recorded in the SONGS MAAC for the
10 remaining balance described in Part 3.c) above, of its share of removal
11 and disposal cost for the original steam generators will be transferred
12 to the NGBA for interim cost recovery on January 1 of the year
13 following completion of the removal and disposal of the original steam
14 generators for each Unit through an advice letter;⁸

15 f) File an application for inclusion of the SGRP costs permanently in
16 rates after completion of the SGRP;⁹

17 g) Establish a two-way balancing account applicable to all SONGS
18 operations and maintenance (“O&M”) costs, including refueling
19 outage O&M and SCE’s contractual overheads, billed to SDG&E
20 under the SONGS Operating Agreement after January 1, 2007 so as to
21 allow SDG&E to recover in rates no more and no less than the actual
22 O&M costs billed to it by SCE; and

⁵ This request conforms with the treatment provided SCE under D.05-12-040, Ordering Paragraph 7.

⁶ This request conforms with the treatment provided SCE under D.05-12-040, Ordering Paragraph 8.

⁷ This request conforms with the treatment provided SCE under D.05-12-040, Ordering Paragraph 9.

⁸ This request conforms with the treatment provided SCE under D.05-12-040, Ordering Paragraph 10.

⁹ This request conforms with the treatment provided SCE under D.05-12-040, Ordering Paragraph 11.

1 h) An authorized return on equity (ROE) with respect to SDG&E's
2 investment in SONGS that is 11.6%, commencing on January 1, 2007
3 "SDG&E's SONGS ROE").

4 The purpose of my testimony is to provide the policy basis supporting SDG&E's
5 participation in the SGRP. Mr. Michael Olson testifies as to SDG&E's ownership share of the
6 SGRP cost estimate and SDG&E's 20% ownership share of the Maximum Allowable Amount.
7 Mr. Richard Sheaffer describes the transmission improvements that would be necessary if
8 SDG&E did not participate in the SGRP. Mr. William Torre testifies as to the costs of these
9 transmission improvements. Finally, Mr. Michael Schneider describes SDG&E's SGRP
10 economic analysis that supports SDG&E's participation in the SGRP. Mr. Schneider further
11 describes the various rate mechanisms SDG&E requests the Commission to adopt in this
12 proceeding, including the Two-Way SONGS O&M Balancing Account and SDG&E's SONGS
13 ROE.

14 **II. SONGS 2 & 3 STEAM GENERATOR REPLACEMENT IS COST-EFFECTIVE**
15 **AND BENEFICIAL FOR SDG&E'S CUSTOMERS**

16 In testimony I submitted to the Commission in SCE's Application No. 04-02-026
17 ("SCE's SGRP Proceeding"), I expressed misgivings over the cost-effectiveness of the SGRP for
18 SDG&E's customers and the timing for the completion of this Project. Chief among my
19 concerns was SCE's past inability to manage as-spent costs at SONGS to its five-year budget
20 projection. This caused me to question whether SCE would be able to bring this complex and
21 costly SGRP to conclusion within SCE's estimated costs. I was careful, however, not to call into
22 doubt that SCE has had an excellent record as the plant operator and has undertaken its affairs at
23 SONGS in a prudent fashion. Nonetheless, operations at a nuclear plant are simply riskier than
24 operations at fossil fuel fired or hydro-electric plants since they are the subject of unforeseeable
25

1 regulatory and extraordinary operating and capital expenses that are largely beyond the control
2 of the plant operator.

3 There are important changes that have occurred since my testimony was presented in
4 SCE's SGRP Proceeding that have caused SDG&E to desire to continue as an owner of SONGS
5 and to participate in the SGRP. First, the Commission issued its Decision No. 05-12-040 on
6 December 15, 2005 ("SGRP Decision"). In this decision the Commission found that the SGRP
7 was cost-effective when measured against alternatives even taking into account potentially
8 higher capital and operations and maintenance costs than used in SCE's cost-effectiveness
9 analysis. In doing so, it rejected SDG&E's position that this Project should be postponed into
10 mid-2012 for Unit 2 and 2016 for Unit 3. The Commission also found that "any delay [in going
11 forward with the SGRP on SCE's proposed schedule] would result in more monies being spent
12 to repair and maintain the original steam generators, and store the replacement steam generators,
13 without a corresponding decrease in the cost of the SGRP." *See, Mimeo*, Finding of Fact No. 8
14 at page 79.

15 SDG&E has since the issuance of the SGRP Decision re-evaluated its long term natural
16 gas price forecast. As Mr. Schneider's testimony describes and because of the conditions set out
17 in the Settlement Agreement, dated April 12, 2006, between SDG&E and SCE that I describe
18 below, SDG&E has now concluded that SONGS, as a resource for its customers, is preferable to
19 the alternatives it had proposed in SCE's SGRP Proceeding. Mr. Schneider's life-cycle
20 economic analysis shows that the SGRP Project cost closely approximate the costs of a gas-fired
21 CCGT alternative under the most likely mid price/cost scenarios. Nonetheless, SDG&E now
22 believes that maintaining the fuel diversity which SONGS provides and limiting more fuel price
23 volatility in the portfolio, are important factors which make continued SDG&E 20% ownership
24 in SONGS beneficial overall to SDG&E customers. Mr. Schneider testifies that the wide range

1 of \$875 million between highest and lowest scenarios in the gas-fired case is due solely to the
2 wide range in natural gas price forecasts. This wide range is the key point in his economic
3 analysis that leads me to conclude that participation in the SGRP as a 20% co-owner is in our
4 customers' best interest. Furthermore, his comparative analysis does take into account a
5 conservative approach to hedging the cost risk of natural gas because SONGS energy is
6 effectively 100% hedged with respect to the impact of gas price fluctuation on energy costs.

7 Another reason that SDG&E has elected to participate in the SGRP is that SDG&E and
8 SCE have successfully reached a settlement of all outstanding issues between the two companies,
9 attached hereto as Exhibit 1.

10 In general, the Settlement Agreement contemplates that SDG&E will participate in the
11 SGRP at a 20% ownership share level by providing notice shortly after the Commission issues
12 its decision on this application. If SDG&E cannot accept the terms of this final decision, then it
13 will so inform SCE and proceed to prepare and file a Section 851 application seeking
14 Commission approval of an ownership share reduction in SONGS. If it elects to participate in
15 the SGRP by accepting the conditions set forth in the final decision, SDG&E, will reimburse
16 SCE for SGRP capital-related costs incurred prior to that date of payment. The parties agree that
17 financing costs will accrue on this "makeup" payment based on SDG&E's Allowance for Funds
18 Used During Construction ("AFUDC") rate. SDG&E agrees to participate in certain other
19 projects, such as the replacement of the reactor vessel heads that to this point in time had been
20 paid under protest pursuant to the Operating Agreement. Various other disputes are resolved that
21 involve SCE's costs of preparing and completing its SGRP Application and an outstanding
22 dispute concerning the cost responsibility for a patent infringement claim that was settled in
23 2002. The monetary value to SDG&E of settling these matters is \$1,125,000. SDG&E also

1 agrees that outstanding disputes involving the 2005 capital and operations and O&M budgets and
2 will approve the 2006 capital and O&M budget.

3
4 **III. THE COMMISSION SHOULD ADOPT THE TWO-WAY SONGS O&M**
5 **BALANCING ACCOUNT AND SDG&E'S SONGS RETURN ON EQUITY**

6
7 SDG&E's reluctance to participate in the SGRP has from our earliest analysis showed
8 this project was marginally cost effective and risks of further cost increases justified alternatives
9 to our participation in the SGRP. As I have earlier described and as set forth in Mr. Schneider's
10 testimony, a combination of the issuance of the SGRP Decision and an updated gas cost forecast
11 compels SDG&E to change its preferred choice and, accordingly, retain its 20% ownership
12 interest in SONGS and support the SGRP.

13 SDG&E's willingness to participate in the SGRP is made conditionally on the
14 Commission approving two rate mechanisms, separately from those adopted for SCE in the
15 SGRP Decision that SDG&E is asking the Commission to also adopt for it in this application.
16 Specifically, SDG&E is requesting the Commission to adopt a two-way SONGS O&M
17 Balancing Account to allow SDG&E to recover no more and no less than SCE's as-billed
18 SONGS O&M costs, including SCE's contractual overheads. SDG&E is also requesting the
19 Commission adopt a return on equity ("ROE") as it relates to SDG&E's SONGS investment of
20 11.6%.

21 The Settlement Agreement demonstrates SCE's support of SDG&E's request for a two-
22 way SONGS Balancing Account and an SDG&E's SONGS ROE of 11.6%.

23 SDG&E is making this request because since 2003, SCE's as-billed O&M costs have
24 exceeded SDG&E's authorized revenue requirement for these costs. In 2004 and 2005, SDG&E
25 was authorized to earn \$1.3 million after tax on its investment in SONGS. However, due to

1 increases in O&M related costs, SDG&E actually earned a negative \$36.3 million pre tax (\$21.4
2 million after tax) over the two year period. This equates to an average negative return on equity
3 in SONGS of minus 353.30%.¹⁰ A significant component of this negative return is made up of
4 Pension and Benefit costs that were billed to SDG&E as SCE's contractual overheads. Under
5 the current ratemaking regime these costs for SCE are tracked through a balancing account.
6 However, SDG&E does not have an authorized balancing account that would allow these
7 Pension and Benefit costs either in excess of or lower than SCE's and SDG&E's authorized
8 revenue requirements billed to SDG&E to be recoverable in SDG&E's rates. Under the
9 Settlement Agreement, these costs as well as other SONGS-related O&M costs would be
10 recoverable through the Two-Way SDG&E SONGS O&M Balancing Account.

11 In SCE's SGRP Proceeding, I expressed concern over SCE's inability to estimate
12 SONGS costs over a five year time horizon due to the substantial uncertainties inherent in a
13 nuclear facility. My concern was that SCE's cost forecast for the SGRP anticipated to go into
14 service in the 2010 and 2011 period would be subject to the same sort of cost risk uncertainty.
15 The SGRP Decision has addressed this concern for purposes of our customers' interests by the
16 Commission's imposition of a SGRP reasonable cost estimate and Maximum Allowable Amount
17 in the SGRP Decision.

18 With respect to SDG&E's concern over SCE controlling SONGS O&M costs, SCE has
19 the ultimate power to control these costs because while SDG&E receives information from SCE
20 and approves the budgets, SCE controls the timing of the expenditures and the amounts it feels
21 are appropriate given the circumstances during each year, such as expenditures related to plant
22 safety. Further, SCE is a very large public utility that manages its cost expenditure across the
23 entire company in a fashion that may affect the timing and size of expenditures at SONGS.

¹⁰ Approximately \$19 million remains subject to recovery in A.02-12-028 (Rehearing of D.04-12-015).

1 SDG&E, on the other hand, must take SCE's as-billed costs as a given simply because SDG&E
2 cannot exert control over these costs as it does at its wholly owned facilities because SCE is the
3 SONGS Operating Agent. As I have previously described, these SONGS O&M costs have
4 proven over time to be unpredictable most recently to the degree that SDG&E has experienced
5 substantial shareholder penalties. It is therefore extremely important for SDG&E to minimize
6 this O&M cost variance risk resulting in this penalty that has served as a disincentive for
7 SDG&E to maintain an its SONGS ownership interest. For this reason, SDG&E is requesting
8 the Commission to approve the Two-Way SONGS Balancing Account to eliminate this incentive
9 for it to find ways of reducing or eliminating its ownership share in SONGS – an incentive that is
10 destructive to productive business relationships with SCE.

11 The Settlement Agreement demonstrates that SCE agrees to make good faith efforts to
12 support SDG&E's involvement in SCE's budgeting process consistent with the terms of the
13 SONGS Operating Agreement. This aspect of the settlement is important because the parties
14 resolve to avoid acrimony that in the past has made it difficult for SDG&E to constructively
15 participate in SCE's budget process. Given that we are putting aside our past disputes, SDG&E
16 will enjoy greater involvement in this process and SDG&E will commit more personnel and/or
17 consulting assistance to ensure that we have a more meaningful and cooperative participation in
18 budget preparation.

19 The need for a Two-Way SONGS O&M Balancing Account is consistent with other
20 circumstances that have justified the Commission in adopting a balancing account. First, the
21 costs are largely beyond the control of SDG&E because SCE, not SDG&E, is the Operating
22 Agent of SONGS. Second, these costs are difficult to forecast accurately and indeed are
23 unpredictable, as SDG&E had shown in SCE's SGRP Proceeding that the Commission
24 recognized in the SGRP Decision.

1 SDG&E is also requesting an authorized ROE as it relates to SDG&E’s investment in
2 SONGS of 11.6%. We are requesting this ROE as it relates to SDG&E’s investment in SONGS
3 because the nuclear power generation industry generally and SONGS specifically entail risks that
4 are substantially different and greater than other public utility activities. This greater risk is
5 made worse, as I have testified in the SGRP Proceeding and here, by the SGRP and as described
6 in Mr. Schneider’s testimony. This Project is a complex and costly undertaking with a variety of
7 material risks, the most challenging according to Edison’s own admission being detensioning
8 and removing the steel tendons to create a construction opening in the containment structure
9 which has never been done at another operating nuclear plant.¹¹ This risk exists for SDG&E up
10 to its ownership share of the SGRP. These general and SONGS-specific risks, simply put, are
11 not like any other normal utility risk. And while the likelihood of some untoward event
12 occurring is slight, if that risk eventuates, then the potential cost to remedy the difficulty as well
13 as the potentially costly purchase of replacement power would expose SDG&E’s shareholders
14 potentially to severe financial exposure.

15 SDG&E is, however, willing to accept the risk associated with its ownership share of the
16 Maximum Allowable Amount stated in the SGRP Decision and the exposure resulting from a
17 reasonableness review, which cause shareholders to be held accountable. This is true even
18 though SCE as the Operating Agent and not SDG&E is undertaking or directly controlling the
19 SGRP work activities.

20 21 **IV. QUALIFICATIONS**

22 My name is James P. Avery. My business address is 8330 Century Park Court, San
23 Diego, California, 92123. I am employed by San Diego Gas & Electric Company (“SDG&E”)
24 as Senior Vice President – Electric. I oversee the company’s generation business unit, electric

¹¹ SCE-3 Part 1, pages 33-34 in A.04-02-026.

1 transmission engineering, grid operations, construction and maintenance, and electric distribution
2 operations. I attended Manhattan College, New York City, New York, graduating with a
3 Bachelor of Engineering Degree in Electrical Engineering with a major field of study in Electric
4 Power. Prior to that, I attained an Associates Degree in the field of Electrical Engineering from
5 New York City Community College. Prior to joining SDG&E in 2001, I was a consultant with
6 R.J. Rudden Associates, one of the nation's leading management and economic consulting firms
7 specializing in energy and utility matters. Prior to that, I functioned as the chief executive officer
8 of the electric and gas operations at Citizens Utilities Company, a multi-service organization that
9 provided electric, gas, telecom, water and wastewater services in over 20 states across the nation.
10 I am currently on the Board of Directors of the California Power Exchange, and I also served as
11 a member of the Board of Directors of Vermont Electric Power Company, a transmission only
12 company serving the state of Vermont, and I held positions at American Electric Power Service
13 Corporation. I have previously testified before this Commission.

14 This concludes my prepared direct testimony.