Application No.: A.06-04-___
Exhibit No.: SDG&E-5
Witness: Michael M. Schneider

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

MICHAEL M. SCHNEIDER

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA
APRIL 14, 2006

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PREPARED DIRECT TESTIMONY

OF

MICHAEL M. SCHNEIDER

I. INTRODUCTION

The purpose of my testimony is to:

(1) Describe San Diego Gas & Electric Company's (SDG&E) economic analysis that compares SDG&E's participation in the Steam Generator Replacement Project (SGRP) to other viable alternatives able to meet SDG&E customer energy and capacity needs over the projected lifetime of San Onofre Nuclear Generating Station Unit Nos. 2 & 3 (SONGS), with the most viable alternative being a gas-fired combined cycle combustion turbine (CCCT) power plant;

(2) Describe generation portfolio and risk factors tending to support SDG&E's continued 20% ownership in SONGS;

(3) Provide an overview of SDG&E's SONGS-related business risks supporting the recommended increase in SDG&E's authorized rate of return to 11.6 percent on only SDG&E's share of SONGS capital;

(4) Propose and describe the amendments to the various balancing accounts to SDG&E's Preliminary Statement that implement the ratemaking proposals consistent with those the Commission approved for Southern California Edison Company (SCE) in Decision 05-12-040 (SGRP Decision); and

(5) Propose and describe a two-way Balancing Account that will record the difference between SDG&E's authorized SONGS O&M revenue requirement and the

actual SONGS O&M costs including contractual overheads, billed to SDG&E by SCE.

The economic analysis results shown in the table below, in combination with the factors of generation portfolio fit, fuel diversity and ratemaking and balancing account protection, indicate that under conservative economic assumptions in the two alternative cases, continued SDG&E 20% ownership of SONGS and full participation in SGRP is the best option for SDG&E customers.

In Table 1 below, the Most Likely Scenarios under both the SONGS Base Case and the CCCT Alternative Case have very close net present values (NPVs). Likewise, in the economic analysis presented in my testimony submitted in SCE's SGRP Application No. 04-02-026 (SCE's SGRP Proceeding) they are very close alternatives. Since that earlier testimony, SDG&E's generation portfolio will have changed to include ownership of two new gas-fired CCCTs by 2008 rather than only one. SDG&E now believes that maintaining the fuel diversity which SONGS provides, and limiting more fuel price volatility in the portfolio, are important factors which make continued SDG&E 20% ownership in SONGS beneficial overall to SDG&E customers. The wide range of $875 million between highest and lowest scenarios in the gas-fired case is due solely to the wide range in natural gas price forecasts. This wide range is the key point in the economic analysis.

Table 1
NPV of Costs to Customers in 2005 $

($ millions)	Most Likely Scenario	Lowest Scenario	Highest Scenario	Low to High Range	Most Likely to High Range
SONGS	1,390	1,356	1,602	246	212
CCCT	1,411	1,076	1,948	875	537

II. ECONOMIC ANALYSIS SUPPORTING PARTICIPATION IN SGRP

My economic analysis evaluates and compares the lifecycle economics of participating in the SGRP and the economics of the most competitive alternative – a CCCT of equal output to SDG&E's share of SONGS output. The analysis uses a range of assumption-sets to calculate cost risks of each of the two alternatives evaluated. The work contained in this testimony addresses two primary objectives:

1. Assess the Most Likely Net Present Value (NPV) Costs associated with SDG&E retaining its 20 percent share of SONGS 2 & 3, through participation in the SGRP and the subsequent operation of SONGS 2 & 3 to the end of the plant's Nuclear Regulatory Commission (NRC) operating license, against the Most Likely NPV Costs associated with the CCCT gas-fired plant.
2. Assess the relative cost risks associated with SDG&E's continued full participation in SONGS Units 2 & 3 as compared to the CCCT gas-fired alternative.

Baseload renewable energy options, for example Salton Sea geothermal, were reviewed in this economic analysis, and found to be uneconomic. SDG&E, however, continues to contract for renewable energy, both wind and geothermal, and will continue to investigate baseload geothermal. Should SDG&E determine the Commission's decision in this Application is not acceptable, SDG&E may submit a subsequent Section 851 application seeking approval of an ownership share reduction in SONGS.

The largest single factor in the economic analysis is the natural gas price forecast. The forecast is based upon California Border Spot Price, prepared consistent with the Market Price Referent gas price forecast methodology adopted by the Commission in D.05-12-042.

A comparison of most likely projections is not adequate for the formation of a sufficient basis for prudent decision making for activities that will occur over a distant future timeframe, in this case 2009-2022. Therefore, the objective of “Minimization of Cost Risk” should be given equal weight with “Minimization of Most Likely Present Value Cost” in both decision making and the related analyses. As explained later in my testimony, the cost risk analysis evaluated the potential range of costs for the primary input assumptions on an equal probabilistic basis so that all cases and scenarios may be evaluated consistently. The results of all scenarios of the two cases are presented in Exhibit MMS-1.

III. METHODOLOGY EMPLOYED

In general, the methodology employed in the following lifecycle comparative economic analysis contrasts the economics under the Base Case, SDG&E participation in the SONGS 2 & 3 SGRP at its full ownership share of 20 percent, with the economics of a supply alternative case equal in MW output to SDG&E’s continued 20 percent participation in SONGS. This supply alternative, the Gas-fired Power Plant Case, is scaled to match SDG&E’s ownership share in SONGS of a CCCT owned and operated by SDG&E.

The goal of the scenario development is to evaluate both the most likely level of Present Value costs and the potential range of costs, and thus cost risks, associated with each case. The study period for all scenarios is October 2009 to October 2022. For each case and each scenario within that case, supplemental power costs were added to bring the Megawatt Hour (MWH) level of the scenario up to the level of SONGS output at an 88 percent capacity factor. In other words, for each month that a scenario did not produce as much energy as SONGS at the 88 percent capacity factor level, supplemental power was added. Realistic consideration had to be given to the differing amounts of supplemental power that would be required for all of the cases in order to provide the same capacity and energy given the different capacity factors. Thus, the unit costs associated with supplemental power for all cases and scenarios were consistent. The reason for including supplemental power to reach a total annual capacity factor level of 88 percent in all cases and scenarios was to remain consistent with engineering economic principles requiring that the total benefit derived from each case and scenario be equivalent so that realistic NPV cost and risk comparisons can be made. Thus, for all cases and all scenarios, the same amount of energy (MWH) is accounted for in the cost streams for each case and scenario.

Replacement power for the Base Case and the Gas-Fired Power Plant Case starts in October of 2009 when Unit 2 goes out of service in order to begin installation of the replacement steam generator. However, due to the time it takes to site, license and build a plant, the CCCT plant operation date is assumed to be January 1, 2012. Therefore, the Gas-Fired Power Plant case uses a short-term power purchase agreement (PPA), priced similarly to the power plant coming on-line in 2012 in the economic analysis, to provide replacement power from October 1, 2009 until January 1, 2012. SDG&E would issue a Request for Offers (RFO) for replacement power as soon as it was known that replacement power was needed. SDG&E has always received responses to its RFOs. The responses to this RFO would be evaluated, and the most economic one chosen as the 2-year replacement power for SONGS.

For consistency, the price of the PPA is based on the same CCCT power plant cost structure as the plant assumed to be built by SDG&E in 2012. The analyses performed for this testimony conforms to generally accepted engineering economic analysis principles. Examples of the key principles utilized in our analysis include:

- The Gas-Fired Power Plant Case is specified to provide the same amount of capacity and energy over the study period (2009-2022) as would have been provided under the Base Case analysis, *i.e.*, assuming that SDG&E retains its 20 percent share in SONGS.

- All quantifiable prospective annual cost streams over the 2009-2022 study period associated with each case and scenario are included in each analysis case.
- Discount rates for each case and scenario are assumed to be equal to SDG&E's most recent 2005 Weighted Average Cost of Capital (8.23 percent) when assessing the Present Value of each case and alternative from SDG&E's perspective.
- Investment lives of all cases, and each of the scenarios within those cases, have been set equal to the period October 2009 to October 2022. The end of the analysis period coincides with the assumed retirement date of SONGS and the sale of the CCCT power plant. The sale of the plant reflects a price based on the Reproduction Cost New less Depreciation (RCNLD) less the Present Value of the pre-payment of the remaining principal balance owed by SDG&E on the plant.
- The Escalation Rates used in this analysis are as follows:
  - O&M Cost escalators for SONGS 2 & 3 and O&M Costs for the CCCT plant are assumed to be 2.75 percent based on the average of the 2009-2022 Consumer Price Index, Urban Los-Angeles, based upon a Global Insight Third Quarter 2005 Regional Forecast;
  - Capital Additions escalators for SONGS 2 & 3 SGRP and 2009-2022 normal Capital Additions have been set to the Handy-Whitman Index for Nuclear Capital Costs in the Pacific Region. The escalations are based on "Global

Insight 4th Quarter 2005 Power Planner" and the resultant annual escalation value is 2.82 percent; and

- Capital Additions escalators for Replacement Plant Capital and 2009-2022 normal Capital Additions have been set to the Handy-Whitman Index for Steam Generation Capital costs in the Pacific region. The escalations are based on "Global Insight 4th Quarter 2005 Power Planner" and the resultant annual escalation value is 2.45 percent.

IV. <u>DISCUSSION OF KEY ASSUMPTIONS AND EXHIBITS</u>

Key cost assumptions for each case were expressed on an equal probabilistic basis for each scenario. The following table (Table 2) shows individual cost components of the scenarios shown in the Summary table above. The bullet points below describe the key cost drivers for each case.

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Table 2
Total Cost of SDG&E Alternatives During 2009-22
Summary of Results ($ millions)

Description	SDG&E Participates in SGRP			~ 90% Owner of CCCT		
	Low	Most Likely	High	Low	Most Likely	High
Standard Items						
Fuel Costs	142	142	142	479	702	1,050
Operating & Maintenance	749	749	843	106	105	103
NDT Contributions	71	71	71	0	0	0
Capital - Routine (non-SGRP)	155	155	179	0	0	0
Capital - SGRP	173	173	205	0	0	0
Capital - CTCC Power Plant	0	0	0	294	294	294
Capital - Transmission	0	0	0	2	2	2
PPA Costs	0	0	0	239	324	461
Sub-Total Standard Items NPV (2005$)	1,290	1,290	1,439	1,120	1,427	1,910
Additional Items						
SONGS Ownership Credits				(105)	(105)	(105)
Supplemental Costs	0	34	97	0	29	81
Environmental Cost Adder				61	61	61
Nuclear Cost Adder	61	61	61			
Increase Due to Parity ROE on Existing Plant	4	4	4			
Sub-Total Additional Items NPV (2005$)	66	100	163	(44)	(15)	37
Total NPV (2005$)	**1,356**	**1,390**	**1,602**	**1,076**	**1,411**	**1,948**

A. SONGS Base Case Assumptions

- For the range of SGRP costs, SDG&E used the calculation of its share of the SCE's SGRP cost estimate as the Most Likely. The High scenario SGRP Cost added another 15 percent to remain consistent with the maximum allowable cost set by SGRP Decision ("Maximum Allowable Amount).
- For SONGS O&M and Routine Capital costs, SDG&E calculated its share of SONGS O&M and Capital Addition Costs in Attachment A of CPUC Decision 05-12-040 as the Most Likely forecast. For the High Cost scenario for both O&M and Capital Addition Costs, SCE's historical budgeting discrepancies from actually incurred costs

were considered. The confidence limits for the statistical expression of the bandwidths from the Most Likely to High Cost scenarios were constructed by evaluating the four and five year ahead absolute SCE Capital Additions budgeting errors for SONGS over the 1992-2004 period. Then, by calculating the Standard Error of the Mean for these budget errors, a SONGS-specific historical budgeting error band was constructed. Applying a ratio between SONGS 2 & 3 "One Year Ahead" O&M vs. Capital Additions budget errors allowed us to translate the four and five year error averages for Capital Additions to the O&M component. The bandwidth for Capital Additions was calculated to be 18 percent and bandwidth for O&M Costs was 10.6 percent. Exhibit MMS-2 contains the historical budget error databases and the statistical analyses to construct the error bands. Exhibit MMS-3 contains SONGS Capital and O&M costs.

- SONGS 2 & 3 2009-2022 Capacity Factor projections were based upon SCE's most recent post-SGRP capacity factor forecast of 88 percent. This was assumed to be the Low-Cost scenario. The Most Likely scenario used a Capacity Factor of 85.5 percent which was based upon the 1994-2004 average Capacity Factor for a group of 26 Pressurized Water Reactor (PWR) units of similar size and vintage to SONGS. The High-Cost scenario used the actual SONGS 2 & 3 experienced Capacity Factors for the years 1992-1995 and 2004 of 83 percent.
- As previously mentioned, supplemental power was added to all scenarios that have a capacity factor below 88 percent. For the SONGS High and Most Likely scenarios, supplemental power was added using a market-based CCCT power plant with a cost structure based on the same plant as assumed to be built by SDG&E in 2012, plus the

Gas Price Forecasts, which is based upon California Border Spot Price, with the High and Low forecast, relying upon the CEC's "90-10" Gas Forecast Methodology pursuant to the CEC Report titled *"Forms And Instructions For The Electricity Resources And Bulk Transmission Data Submittal" (CEC 100-2005-002).* Exhibit MMS-4 contains the Capital and non-fuel O&M costs; Exhibit MMS-5 contains the supplemental power gas costs.

- Nuclear adders were set to $3.20 per MWH due to (1) the possible nuclear plant security-related cost risk associated with the potential redesign of the terrorist threat basis, potentially giving rise to additional O&M costs and capital expenditures and (2) an unquantified safety, public health, and environmental risks and effects associated with SONGS, as referenced in Exhibit MMS-6. At this point, it is not known if these costs will ever materialize. For the purpose of this economic comparison we have used a Green House Gas Cost adder as prescribed by the CPUC. We have burdened the SGRP Case with an equal nuclear adder reflecting these unquantified risks in order to penalize both scenarios at the same cost level. The Commission adopted this same treatment in the SGRP Decision. *Mimeo*, Finding of Facts 158 and 159, at pages 94-95.
- For the Base Case SDG&E has calculated SONGS decommissioning obligation to be about $12 million dollars a year from 2009-2022 with a net present value of $70.74 million.
- As addressed earlier in my testimony SDG&E has calculated all SONGS capital with an ROE of 11.6 percent. This ROE is applied to SDG&E's SONGS existing plant

balances. The increase in revenue for the existing plant balances is shown in Exhibit MMS-7.

B. Gas-Fired Power Plant Case Assumptions

- The natural gas price forecast used to develop the economic analysis in this proceeding was prepared consistent with the Market Price Referent gas price forecast methodology adopted by the Commission in D.05-12-042 on December 15, 2005. The near-term natural gas price forecast from April 2006 to December 2011 is based on the then most recent 22-day trading average of NYMEX Henry Hub futures prices from February 9, 2006 to March 10, 2006. Basis swaps trading contract settlement prices at the Southern California Border from NYMEX ClearPort are then added to the Henry Hub futures prices to arrive at the natural gas price forecasts at the California border. The long-term natural gas price forecast from 2015 to the end of the forecasting period is based on an average of forecasts from the California Energy Commission, Energy Information Administration and private consultants. The intermediate years from 2012 to 2014 was estimated from a three year straight line to blend between the near-term and the long-term forecasts. The upper 90% and lower 10% range was prepared according to the CEC's "90-10" Gas Forecast Methodology pursuant to the CEC Report titled *"Forms And Instructions For The Electricity Resources And Bulk Transmission Data Submittal" (CEC 100-2005-002)*. The Southern California Border Price represents the market price of gas in southern California. It is representative of supply in southern California, and is not basin-specific.

- The O&M and Capital Cost estimates for the Most Likely Scenario were based on a Sargent & Lundy study. Sargent & Lundy also assumed a 6,900 net capacity Heat Rate which has been employed in this study. Exhibit MMS-8 contains the CCCT Capital and non-fuel O&M costs; Exhibit MMS-9 contains the CCCT gas costs.
- As previously mentioned, supplemental power was added to all scenarios that have a capacity factor below 88 percent. For the CCCT High and Mid scenarios, supplemental power was added using a market-based CCCT power plant with a cost structure based on the same plant as assumed to be built by SDG&E in 2012, plus the Gas Price Forecasts, which is based upon California Border Spot Price, with the High and Low forecast, relying upon the CEC's "90-10" Gas forecast methodology pursuant to the CEC Report titled *"Forms And Instructions For The Electricity Resources And Bulk Transmission Data Submittal" (CEC 100-2005-002).* Exhibit MMS-4 contains the Capital and non-fuel O&M costs; Exhibit MMS-5 contains the supplemental power gas costs.
- The value of the inventory of nuclear fuel and SONGS materials and supplies at the time of the SGRP replacement is $31.6 million and is treated as a credit in the CCCT case.
- In the CCCT case SDG&E would have a reduced SONGS decommissioning obligation. SDG&E has determined that its Nuclear Decommissioning Trust would be over funded in that event. At the time decommissioning is completed in 2047, the over-funded amount would be approximately $444 million dollars. The Net Present Value (NPV) of the $444 million is $16.4 million in 2005 dollars and is treated as a credit to the CCCT case.

- SDG&E and SCE had an oral agreement to forego billing SDG&E $32 million in capital for projects that are not slated to go into service until or after the SGRP is placed in service. This oral agreement assumed that SDG&E did not participate in the SGRP. These capital dollars are treated as a credit to the CCCT Case.
- As a result of the transmission reinforcement study discussed in Messrs. Sheaffer's and Torre's testimonies, I have added a Net Present Value cost of $2.3 million to the cost of the CCCT case. This cost represents the acceleration of two transmission line reconductorings from 2022, the year they would be needed if SDG&E retains its SONGS 20% ownership share, to 2015, the year they would be needed if SDG&E replaces SONGS capacity with a CCCT at Encina.
- GHG adders are included in the study as a separate cost of $8 dollars a ton CO2 or $3.20 per MWH. This adder applies to all CCCT scenarios.

V. PORTFOLIO RISK AND FUEL DIVERSITY

The table below shows SDG&E's forecasted energy portfolio, which even with SONGS, is heavily weighted with power from gas-fired generation. Beginning in 2008, well over half of the portfolio is gas-fired. Without SONGS, the gas-fired portion becomes as high as 75% in 2011.

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Table 3

SDG&E Fuel Mix Strategic Outlook Energy Portfolio (GWh)

<u>With SONGS</u>	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Nuclear (SONGS)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Coal (Boardman)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Renewable	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fixed Price DWR Contracts	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Natural Gas	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
<u>Without SONGS</u>											
Nuclear (SONGS)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Coal (Boardman)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Renewable	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fixed Price DWR Contracts	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Natural Gas	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The principal reasons for portfolio diversity are to increase reliability and to mitigate fuel supply problems and price volatility. Price volatility can be managed through hedging, but hedging can be costly in terms of company resources involved in arranging and administering credit and margin.

The analysis includes an estimated hedging cost of $0.40/MMBtu on the new combined cycle plant's gas supply for the period 2012-22. The net present value of this cost over the life of the analysis is approximately $39 million. The $0.40/MMBturepresents the cost of fixing *today* the gas costs during the period 2012-22. Fixing gas costs most likely would be done through financial means such as a fixed price swap. However, as stated in SDG&E's AB57 Procurement Plan, filed November 16, 2005, "[*there is*] *reduced liquidity in the market beyond five years, which makes transaction execution more difficult, increases bid/ask spreads and makes price discovery less robust.*"   While recognizing the difficulty of good price discovery for the 2012-22 timeframe, SDG&E did contact several market participants in December 2005, in order to get an indicative look at current market longer-term pricing for Southern California Border gas. The $0.40/MMBtu cost used in this analysis is derived from assuming that SDG&E as buyer would pay at least half of a bid/ask spread, i.e. mid-market spread. The bid/ask spread quoted to SDG&E in December 2005 was $0.80/MMBtu for the period 2010-20. This large bid/ask spread is due to the very high risk in quoting prices further out than five year. Bid/ask spreads for several years out would be much narrower, but the analytical purpose here is to fix the CCCT gas cost today.

The reason for estimating the current costs of hedging gas for the 2012-22 timeframe is to place the SONGS Base Case on at least partially the same footing as the Replacement CCCT Case with regard to fuel costs. SDG&E's Procurement Plan includes SONGS power as 100% hedged. Gas costs, however, are approximately 48% of the 2009-22 NPV costs of the Gas-Fired Plant Case most likely scenario. Without including an estimated hedging cost the economic analysis would be comparing 0% hedged power with 100% hedged power. Including a hedging cost at least recognizes in the Replacement CCCT Case the extra cost of fixing fuel prices. Due to the fact that SDG&E is not fixing the cost of the CCCT gas today for the period 2012-2022, substantial price uncertainty remains, which is recognized in the $875 million range of costs between the highest and lowest scenarios of CCCT Case. The cause of this large range between scenarios is the substantial difference between the high and low gas price forecasts. It is important to note that a hedging cost would apply to whatever the forward prices in the market are at the time of locking in the CCCT gas costs. If in one year from now, SDG&E was to lock in gas prices on the replacement CCCT of this analysis which is planned to be in operation in 2012, then there would be a new bid/ask spread on such a deal beginning 5 years out (2007-12), and depending on the conditions of the market at that time, SDG&E as buyer would pay up to one-half of that bid/ask spread.

Clearly, the economic analysis should include a hedging cost in order to quantify the difference in the hedged nuclear to the unhedged gas, and should include a high/low gas price forecast in order to quantify the underlying uncertainty of the natural gas market. Table 1 shows that the upside risk (Most Likely to High Range) in the Replacement CCCT Case is more than twice the upside risk in the SONGS Base Case. This greater risk is an important factor in making the choice for SDG&E customers of retaining ownership in SONGS and foregoing another CCCT before it is necessary.

The economic analysis in my testimony submitted in the SGRP Proceeding evaluated a baseload geothermal plant as an alternative to SONGS, and found it to be uneconomic at a levelized cost of $93.56/MWH. SDG&E is not aware of any cost decreases to baseload geothermal plants. Thus, the baseload geothermal plant remains an uneconomic alternative in the current economic analysis.

VI. SONGS BUSINESS RISK AND REQUESTED SDG&E SONGS RATE OF RETURN

SDG&E's requested 11.6 percent ROE for SONGS-related investments includes a 0.90 percent increase in ROE relative to SDG&E's currently authorized ROE. The increase reflects the incremental risk associated with nuclear investments as described below. SDG&E's SONGS business risk encompasses both investment risk and regulatory risk. Regulatory risk includes uncertainty from future regulatory actions and the current energy and regulatory framework, *i.e.*, process and structure issues related to multiple agency oversight and involvement in energy policy and implementation.

A. SONGS Generation Business Risk: Investment in near term (2006 – 2010)

SDG&E is a 20 percent owner of SONGS, with a $37 million net book value of the Plant (excluding fuel inventory) at year-end 2005. SDG&E's significantly increasing investment in SONGS over the next five years will be approximately $284 million ($ nominal) of new capital including the SGRP. Nuclear investments and the SGRP carries significantly greater risk related to cost over-runs due to various NRC-related regulatory, technical and logistic challenges that must be overcome. For example, since the SONGS containment structures were not originally designed for SGRP, large openings must be cut in the concrete containment structure walls to get the steam generators in and out. That will require removing and replacing some of the highly tensioned steel cables that reinforce the containment structures using a procedure that has never been done at another *operating nuclear plant*. Additionally, the replacement steam generators will need to be transported via the beach to the SONGS site during a brief window of time when this is environmentally acceptable. SDG&E views this project as one that carries greater business risk that the SGRP cost increases upwards to the Maximum Allowable Amount.

B. SONGS Generation Business Risk: Regulatory

SCE overspent its authorized 2005 SONGS revenue requirement and SDG&E is incurring SONGS-related costs which are projected to be $12-$20 million more than authorized in SCE's last general rate case.[1] Both SDG&E's continued partial ownership of SONGS and its

[1] Approximately $17.9 million remains subject to recover in A.02-12-028 (Rehearing of D.04-12-015).

participation in the SGRP, coupled with additional capital projects in the future represent significant cost management risks for SDG&E. Two examples illustrate this concern. First, SCE has recently begun the process of planning for replacement of SONGS Reactor Vessel Heads. Second, SCE receives two-way balancing account treatment for costs related to pensions and Post Retirement Benefits Other Than Pensions ("PBOPs"). These costs are part of the allocated overheads billed to SDG&E under the San Onofre Nuclear Generating Station Operating Agreement ("Operating Agreement") for which SDG&E presently does not receive balancing account treatment. The Operating Agreement increases the risk for SDG&E of not completely recovering the amounts billed to SDG&E from SCE while both utilities go through separate cost recovery proceedings with the Commission. For example, in SDG&E's last cost of service proceeding, the Commission did not provide for the recovery of various costs, which are billed to SDG&E through the Operating Agreement. This outcome is currently pending rehearing with the Commission, but this example highlights the cost recovery risk to SDG&E due to the combination of multiple regulatory processes and a complex contractual relationship with SCE.

VII. COST RECOVERY AND RATEMAKING

As stated in this application, SDG&E requests an increase to its SONGS non-fuel revenue requirement to cover its share of SGRP costs. Consistent with current recovery treatment for generation costs SDG&E proposes that changes to its SONGS non-fuel revenue requirement be recorded in its existing Non-Fuel Generation Balancing Account (NGBA) for recovery in commodity rates (Schedule EECC, Electric Energy Commodity Costs), consistent with Ordering Paragraphs (OP) 7 through 10 of D.05-12-040. Consistent with OP 9 and 10, revenue requirements associated with certain SGRP capital-related costs billed to SDG&E will initially be recorded monthly to a new balancing account called the SONGS Major Additions Adjustment Clause (SONGS MAAC) account and then transferred annually over to the NGBA for interim recovery in commodity rates, as described in more detail below. The revenue requirements recorded to the NGBA will be balanced against billed revenues received from the commodity rate component set to recover SGRP costs.

SDG&E is proposing the following cost recovery treatment for SGRP costs. First consistent with OP 12 of D.05-12-040 SDG&E requests authority to recover through depreciation 20 percent of its share of the estimated costs of removal and disposal of the original steam generators, including contractual overheads, beginning in January 2007 (or when the application is approved) and continuing through 2011. The increase in the depreciation expenses will increase the SONGS 2 & 3 revenue requirement being recorded monthly to the NGBA. Second, consistent with OP 9 and 10 of D.05-12-040 the SGRP revenue requirements associated with SDG&E's share of the steam generator installation costs for each unit and the remaining balance of the removal and disposal costs of the original steam generators for each unit may be subject to refund if a reasonableness review is performed. For this reason, SDG&E proposes to establish a separate balancing account called the SONGS MAAC to allow for interim rate recovery, subject to refund, prior to the conclusion of a reasonableness review, consistent with OP 9 and 10. SDG&E will record monthly to the SONGS MAAC the actual revenue requirements associated with these SGRP capital expenditures billed to SDG&E, including allocated overheads, as of the date of operation of each unit (for installation costs) and as of the date removal and disposal is completed (for removal and disposal costs). The amounts recorded in this new balancing account will be transferred annually to the NGBA to be amortized in commodity rates, by advice letter, effective January 1 of the year following 1) commercial operation of each unit and 2) completion of the removal and disposal of the original steam generators for each unit. Finally, SDG&E is proposing that the revenue requirements associated with SGRP reflect an authorized return on equity (ROE) for SONGS capital investments of 11.6%, commencing on January 1, 2007.

In addition, SDG&E proposes to establish a separate two-way balancing account to record the difference between 1) SDG&E's authorized SONGS O&M revenue requirement including refueling outage O&M and 2) the actual costs, including SCE's contractual overheads, billed to SDG&E by SCE relating to SONGS O&M expenses, including refueling outage O&M. SDG&E proposes that the balance in this account be transferred annually to its current NGBA, which is amortized in commodity rates on an annual basis.

Finally, consistent with OP 11 of D.05-12-040 SDG&E will file an application for inclusion of the SGRP costs permanently in commodity rates after completion of the SGRP. In the event the removal and disposal of the original steam generators is delayed significantly beyond the commercial operation of both units, it will be addressed in a subsequent application

VIII. <u>QUALIFICATIONS</u>

My name is Michael M. Schneider. I am employed with San Diego Gas & Electric Company as the Director of Financial Strategy and Analysis for SDG&E and Southern California Gas Company. My business address is 8330 Century Park Court, San Diego, California 92123-1530.

I received a Bachelor of Economics degree from the University of Arizona in 1987. I received a Masters of Business Administration from George Mason University with an emphasis in finance and accounting in 1990. I have been employed by SDG&E since 1992. I have held various positions throughout my 14 years with SDG&E, including pricing analyst, regulatory case manager, Manager of Pricing, Director of Business Analysis, and Director of Business Planning and Budgets.

In my current capacity as Director of Financial Strategies I am responsible for financial and economic assessment of the utilities' business functions and activities related to operations, capital investments, financing and regulatory proceedings.

I have previously testified before both the Federal Energy Regulatory Commission and California Public Utilities Commission.

This concludes my prepared direct testimony.