

Application No.: A-16-03-XXX

Exhibit No.: SDGE-01

Witnesses: Frank W. Thomas  
Adam H. Levin  
Amir K. Moftakhar  
Tracy M. Dalu  
Michael R. Woodruff  
Stephen J. Beck  
Norma G. Jasso  
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**PREPARED DIRECT TESTIMONY**

**2015 NUCLEAR DECOMMISSIONING COST TRIENNIAL PROCEEDING**

**ON BEHALF OF**

**SAN DIEGO GAS & ELECTRIC COMPANY**

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

**March 1, 2016**

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**PREPARED DIRECT TESTIMONY**  
**ON BEHALF OF SDG&E**  
**CHAPTER I**  
**FRANK W.THOMAS**

**I. INTRODUCTION**

The San Onofre Nuclear Generating Station (“SONGS”) is licensed under the Nuclear Regulatory Commission (“NRC”) as three units. San Diego Gas & Electric Company (“SDG&E”) has a 20% minority ownership stake in each of the three nuclear units and, as such, is contractually obligated to pay its 20% ownership share of all expenses including decommissioning expenses.

**A. Overview of SDG&E’s Testimony**

In this 2015 Nuclear Decommissioning Cost Triennial Proceeding (“NDCTP”), SDG&E is providing testimony in support of its requests that the California Public Utilities Commission (“CPUC” or “Commission”):

- 1) Approve as reasonable the 2016 SONGS 1 decommissioning cost estimate (“DCE”) for remaining SONGS 1 decommissioning work and SDG&E’s 20% share of the costs (\$47.9 million, 2014\$);
- 2) Approve as reasonable the \$42.6 million (2014\$) in future SDG&E-only costs for SONGS 1, 2 and 3;
- 3) Approve SDG&E’s request to maintain its annual contributions to its SONGS 1 Nuclear Decommissioning Trusts (“NDTs”) at \$0, based upon the current estimate of decommissioning costs for SONGS 1, current level of funding of the SONGS 1 NDTs, projected escalation rates, and financial market conditions known at this time;
- 4) Approve as reasonable the \$1.3 million (SDG&E share, nominal\$) for SONGS 1 decommissioning expenses invoiced to SDG&E between January 1, 2013 and December 31, 2015;
- 5) Approve as reasonable the \$2.8 million (SDG&E share, 2011\$) for SONGS 1 decommissioning expenses incurred between January 1, 2009 and December 31, 2012; and

1           6) Consolidate A.15-01-014 and A.15.02-006 with this proceeding<sup>1</sup> and approve as  
2           reasonable SDG&E's share of the SONGS 2 and 3 decommissioning expenses  
3           invoiced to SDG&E for activities completed between January 1, 2014 and  
4           December 31, 2015 and SDG&E-only costs for SONGS 1, 2 and 3 incurred  
5           during this time period (SDG&E to identify these expenses in supplemental  
6           testimony to be submitted on April 15, 2016).

7           **B. Introduction to Witnesses**

8           SDG&E offers the following witnesses to cover these various areas:

- 9           • Chapter I: Site Oversight and Fiscal Management - Frank Thomas
- 10          • Chapter II: Industry Expert Witness – Adam Levin
- 11          • Chapter III: SDG&E-Only Costs – Amir Moftakhar
- 12          • Chapter IV: Account & Trust Disbursement – Tracy Dalu
- 13          • Chapter V: Trust Fund Contributions and Trust Fund Management – Mike  
14           Woodruff and Steve Beck
- 15          • Chapter VI: Regulatory Account – Norma Jasso
- 16          • Chapter VII: Tax – Ragan Reeves
- 17          • Chapter VIII: Witness Qualifications

18          **C. Purpose of My Testimony**

19          In my testimony, I will be addressing the following issues:

- 20          • SDG&E's fiscal oversight and management of SONGS decommissioning  
21           activities;
- 22          • Background on SONGS decommissioning cost estimates;
- 23          • The reasonableness of the 2016 SONGS 1 DCE and SDG&E's share thereof;
- 24          • The reasonableness of SDG&E's SONGS 1 costs billed to us by Southern  
25           California Edison Company ("SCE") between January 1, 2013 and December  
26           31, 2015;
- 27          • The reasonableness of SDG&E's share of SONGS 1 decommissioning costs  
28           from 2009 thru 2012; and

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<sup>1</sup> Needed in order to address 2014 and 2015 SONGS Units 2 and 3 costs in the same proceeding.

- SDG&E’s and SCE’s plan to submit supplemental testimony in the future on SONGS 2 & 3 decommissioning issues.

## **II. SITE OVERSIGHT AND FISCAL MANAGEMENT**

One purpose of my testimony is to describe SDG&E’s oversight and fiscal management of its SONGS obligations as a non-operating minority owner and describe efforts undertaken to review decommissioning cost estimates.

### **A. SDG&E’s Fiscal Management Role**

SDG&E is a 20% minority owner of all three units at SONGS. As recognized by the NRC, SCE is the operating agent and presently the decommissioning agent for the responsible co-participants.<sup>2</sup> SDG&E has a fiscal responsibility to fund operations and decommissioning at SONGS. Although the plant is not generating electricity, the NRC’s licensing requirements recognize the plant’s 10 CFR Part 50 licenses are not terminated until all radiological waste is removed. When the plant was producing electricity, and now that it is in decommissioning, SDG&E has stationed a dedicated employee at the plant to follow major activities at the site and to report to SDG&E management plant status relative to budget. As such, this employee participates in middle and upper management site meetings to keep apprised of site work and has general knowledge of work being done. While SDG&E’s on-site Nuclear Team Lead has nuclear background and acumen, SDG&E does not serve as a nuclear decommissioning expert for activities at the plant, but actively monitors developments from a fiscal oversight perspective. Through 2015, a budget analyst responsible for variance analysis and invoice reconciliation has reported to the Nuclear Team Lead. I have served as the manager for this group. The Nuclear Team Lead and budget analyst serve on the SONGS Budget Committee. I serve as alternate to the SONGS Executive Committee. In addition, I brought in a spent nuclear fuel/decommissioning consultant, Mr. Adam Levin, to serve as an industry consultant to our Nuclear Team Lead and SDG&E management. Mr. Levin provides valuable insight as to past and present decommissioning activities within the industry, NRC’s requirements, and nuclear issues before the Department of Energy (“DOE”). He serves as SDG&E’s industry expert when we seek confirmation that activities or plans for SONGS comport with industry practices.

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<sup>2</sup> SCE, SDG&E, City of Anaheim, and City of Riverside.

1           **B.     SDG&E’s Governance & Administration**

2           In April 2015, SDG&E executed a decommissioning agreement (“Decommissioning  
3 Agreement”) with the other three co-participants that governs SDG&E co-owner participation.  
4 The Decommissioning Agreement establishes a decommissioning agent, participant funding  
5 responsibilities and participant involvement in the governance of the decommissioning agent.  
6 Pursuant to the Decommissioning Agreement, Executive, Budget, Fiscal, and Legal committees  
7 were established. The Budget and Executive committees approve major monetary commitments.  
8 In addition, an independent nuclear expert (i.e. Decommissioning Advisor) assists the Executive  
9 Committee on an as-needed basis. This Decommissioning Agreement governs the  
10 decommissioning of all three units.

11           **C.     Operating & Project Budget Review, Approval, Tracking w/ Invoice Review  
12                   & Approval**

13           SDG&E reviews annual budgets as well as budgets for specific decommissioning  
14 projects and then tracks progress on a monthly basis. Contracts or change orders to existing  
15 contracts in excess of \$3 million dollars require unanimous approval by the co-participants.  
16 SDG&E approaches this responsibility by understanding the general need and scope of work  
17 while confirming that major work was competitively bid amongst qualified vendors. For the site  
18 undistributed costs<sup>3</sup> and the major decommissioning tasks, SDG&E tracks performance to  
19 budget on a monthly basis. Further, the nuclear business analyst also reviews and approves  
20 invoices concurrent with budget overview. Here, the detailed support provided with the invoices  
21 are reconciled to particular work orders to support proper accounting. Once this effort is  
22 completed, the nuclear business analyst coordinates with SDG&E Generation Accounting to  
23 facilitate payment. This group also participates in audits of charges from SCE. This effort is  
24 undertaken for all SONGS costs billed to SDG&E from SCE, whether decommissioning costs or  
25 prior operating legacy costs.

26           **D.     Review of DCEs**

27           SDG&E’s Nuclear Team Lead, outside consultant, and I, among others, read and review  
28 the decommissioning cost estimates SCE prepares for the SONGS units. The Nuclear Team  
29 Lead does so based upon his knowledge and understanding of site activities that would bear on

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<sup>3</sup> Undistributed costs are those activities, the cost of which cannot be attributed to a particular work order. Common costs, such as security or insurance, are an example of undistributed costs.



1 understanding the changes to or additional efforts identified since development of any previous  
2 DCEs. Mr. Levin, as discussed in his testimony provided in Chapter II below, reviews DCEs for  
3 consistency with industry norms.

### 4 **III. BACKGROUND ON SONGS DECOMMISSIONING COST ESTIMATES**

5 The 2012 NDCTP decommissioning cost estimates for SONGS were predicated on the  
6 assumption that Units 2 and 3 would continue to generate electricity into 2022 per its NRC  
7 license and that Unit 1 decommissioning would continue in quasi stasis consistent with the Unit  
8 1 decommissioning second phase. Thus, the 2012 NDCTP filing, including the proffered cost  
9 estimates, were intended primarily to determine the appropriate amount of ratepayer  
10 contributions needed for the NDTs such that the trusts would be adequately funded. As such, the  
11 previous estimates contained general approximations of the major deliverables required for  
12 decommissioning. In addition, the previous DCEs did not include SDG&E-specific costs, which  
13 were recoverable through general rates, or were not yet contemplated by SDG&E and the other  
14 SONGS co-owners.

15 With the permanent shut-down of Units 2 and 3 in 2013, the focus turned to large scale  
16 deconstruction of the site. These changes in circumstances triggered the preparation of an  
17 updated DCE for Units 2 and 3. As such, the 2014 DCE provided a more detailed review of the  
18 decommissioning activities than prior SONGS decommissioning cost estimates and it also  
19 included SDG&E-only costs identified, for the first time. This 2014 Units 2 and 3 DCE is  
20 pending approval from the CPUC. The cost estimates for the 2015 NDCTP will follow the  
21 template and level of detail presented in 2014. For Unit 1, this entailed a major revamping of the  
22 cost estimate. This effort results in an easier comparison of assumptions and, as SDG&E  
23 understands it, also will tie the estimate to the scope of work required of the decommissioning  
24 general contractor. Thus, the 2016 DCEs not only will be used to calculate ratepayer  
25 contributions to the trusts, as has been done in the past, but also will be used as the basis for  
26 reviewing decommissioning trust fund requests and uses and serve as a guiding  
27 decommissioning plan and schedule.

1 **IV. 2016 UNIT 1 DECOMMISSIONING COST ESTIMATE**

2 **A. SDG&E Has Reviewed The DCE And Found It To Be Reasonable As A**  
3 **Decommissioning Plan And Guiding Schedule**

4 In accordance with its responsibilities as the decommissioning agent for SONGS, SCE  
5 provided an updated Unit 1 DCE. SDG&E and its consultant, Mr. Levin, reviewed this cost  
6 estimate and determined that the estimate was prepared using standard industry conventions, best  
7 practices and assumptions consistent with information available to SDG&E. The resulting DCE  
8 provides a detailed site-specific cost estimate and includes a decommissioning plan, work  
9 breakdown structure, and schedule in a similar format to the 2014 DCE for Units 2 and 3. The  
10 evaluation of decommissioning work plans for the entire site and possible sequencing of work  
11 activities were considered during the development of the 2016 Unit 1 DCE to derive a realistic  
12 scope of work that was predicated on safety, efficiency and cost effectiveness. It is my belief  
13 that the DCE reflects a realistic estimate of the cost to effectively and safely decommission  
14 SONGS Unit 1 and comply with existing regulations. SDG&E believes the 2016 Unit 1 DCE is  
15 reasonable and should be adopted.

16 SDG&E's Nuclear Team Lead stationed at SONGS is responsible for the oversight and  
17 review of SCE's activities related to SONGS planning and work efforts. He serves as the liaison  
18 between SCE and SDG&E and interacted with SCE personnel at SONGS throughout the  
19 development of the DCEs. As part of its review of the DCE, SDG&E sought the advice of an  
20 independent decommissioning expert to assist in its oversight and review of the DCE (see  
21 testimony of witness Levin). The SDG&E Nuclear Team Lead served as the point of contact for  
22 Mr. Levin to make sure Mr. Levin's comments and concerns were conveyed.

23 **B. SDG&E's Share of the 2016 Unit 1 DCE**

24 The updated 2016 Unit 1 DCE, using methodologies consistent with the 2014 Units 2 and  
25 3 DCE, identifies a \$239.4 million (\$2014) total cost for the activities to be undertaken by the  
26 decommissioning agent and general contractor. If the 2016 Unit 1 DCE is adopted by the  
27 Commission, SDG&E's twenty-percent (20%) ratable share of decommissioning costs for  
28 SONGS Unit 1 would be \$47.9 million (2014\$). This includes contractual overheads charged to  
29 SDG&E from the decommissioning agent (SCE), but excludes future SDG&E-only costs. Upon  
30 acceptance of SDG&E's estimated SDG&E-only cost estimate for Units 1, 2 and 3, these costs  
31 will be appended to the appropriate DCEs for submittal to the NRC. SDG&E discusses its

1 estimate of future SDG&E-only costs for SONGS 1, 2 and 3 in the testimony of Mr. Moftakhar  
2 (Chapter III).

3 **C. 2012 Unit 1 DCE vs. 2016 Unit 1 DCE**

4 The testimony of SCE witness Mr. Perez discusses the updated 2016 Unit 1 DCE and  
5 compares and contrasts it with the 2012 DCE. The cost difference between the 2012 and 2016  
6 estimates, adjusted for work completed in 2013 through 2015 and ignoring the effects of  
7 escalation, is summarized below.

<b>SONGS Unit 1</b>	<b>100% Share in Millions</b>
2016 Decommissioning Cost Estimate	\$239.4
2012 Decommissioning Cost Estimate	<u>\$169.9</u>
Increase	\$69.5
% Increase	41%

8  
9  
10  
11  
12  
13  
14 The following table from SCE witness Perez (Table IV-2) shows the major cost change  
15 drivers between the 2012 and 2016 estimates.

<b>100% Share, 2014 \$ in Millions</b>		
<b>Line No.</b>	<b>Item</b>	<b>Variance</b>
1	Undistributed Costs	37.0
2	Full Removal Of Intake/Discharge Conduits	35.7
3	License Termination	10.5
4	Subsurface Structure Removal	(38.4)
5	Misc	13.7
6	Escalation	11.0
7	Total Increase	69.5

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23  
24 The 2016 Unit 1 DCE follows the 2014 Units 2 and 3 DCE approach and includes  
25 previously missed cost categories and refinement of other categories resulting in both upward  
26 and downward costs. SDG&E has reviewed the variances and understands the tasks and cost  
27 adjustments to be necessary.

1 **V. REASONABLENESS OF SONGS UNIT 1 DECOMMISSIONING COSTS SCE**  
2 **BILLED TO SDG&E FROM 2013 TO 2015**

3 SDG&E incurred and recorded \$1.3 million (nominal\$) during the period January 1, 2013  
4 through December 31, 2015 for costs incurred by SCE and invoiced to SDG&E for the following  
5 SONGS Unit 1 activities:

- 6 1) Disposition of the SONGS Unit 1 Offshore Intake and Discharge Conduits consistent  
7 with an amendment to SCE's Grant of Easement with the California State Lands  
8 Commission ("CSLC");
- 9 2) Groundwater sampling and monitoring of the 14 wells installed by SCE as part of the  
10 Nuclear Energy Institute ("NEI") Groundwater Protection Initiative to monitor the  
11 groundwater beneath the SONGS Unit 1 site for the presence of tritium;
- 12 3) Security, maintenance and monitoring of the SONGS Unit 1 spent fuel stored at the  
13 SONGS site;
- 14 4) Updating the 2012 SONGS 1 DCE;
- 15 5) NRC fees; and
- 16 6) Insurance (e.g., workers' compensation, property and liability).

17 SDG&E witness Levin testifies to these activities as being reasonable tasks necessary for  
18 decommissioning. SCE witness Bledsoe compares the 2012 Unit 1 DCE estimate of \$12.4  
19 million (\$2011) versus recorded costs of \$6.1 million (\$2011) for the 2013 through 2015 years at  
20 the 100% share level. The corresponding cost for SDG&E for its 20% share with contractual  
21 overheads is \$1.2 million (\$2011).

22 SDG&E's recorded amounts will not directly correlate to 20% of SCE's recorded values  
23 due to billing lag. In 2013 and 2014, billing lag occurred as Unit 1 was billed quarterly, so in  
24 January 2013 SDG&E paid the 4<sup>th</sup> quarter of 2012. Similarly, in 2015, SDG&E paid 4<sup>th</sup> quarter  
25 2014 in January but did not pay November and December 2015 charges until 2016 as the Unit 1  
26 billing-remittance process equaled that for Units 2 and 3 (i.e., a two-month lag). To put 20% of  
27 SCE's recorded cost on the same basis with our costs, the 4<sup>th</sup> quarter 2012 costs that were not  
28 accrued would be subtracted from SDG&E's recorded cost and the November and December  
29 2015 costs would be added. With billing lag and consideration of de-escalation, SDG&E's  
30 recorded amount aligns with SCE's for SDG&E's share.

1 SDG&E concurs that SCE's SONGS 1 activities during 2013 through 2015 were  
2 appropriate and necessary and that the variances with the 2012 DCE are understandable. In  
3 addition, during this period, SDG&E has participated in meetings with SCE regarding CSLC  
4 leases, jurisdiction, and requirements for site decommissioning, including the conduits for all  
5 three units. We understand the issues and concur that SCE has taken the appropriate actions  
6 necessary to decommission Unit 1 and satisfy the CSLC. In summary, the CPUC should find  
7 that the Unit 1 costs incurred by SDG&E during this time period are reasonable.

8 **VI. REASONABLENESS OF SDG&E's 2009 TO 2012 UNIT 1 DECOMMISSIONING**  
9 **COSTS**

10 In D.14-12-082 (the 2012 NDCTP Phase 2 decision), the Commission ruled that SCE had  
11 not met its burden of proof as to whether the \$13.9 million (100% share, 2011\$) of SONGS 1  
12 decommissioning costs incurred during 2009-2012 were reasonable. In this instant application,  
13 SCE witness Mr. Bledsoe offers testimony that provides additional explanation of the costs  
14 incurred and why those costs are reasonable. SDG&E has reviewed this testimony and agrees  
15 with its conclusions. Based upon SDG&E's on-site representation, SDG&E concurs that these  
16 efforts were appropriate and necessary. Accordingly, SDG&E requests approval to reimburse its  
17 shareholders from the Unit 1 non-qualified Trust for the shareholder contribution previously  
18 made per CPUC order (D.14-12-082).<sup>4</sup>

19 **VII. SONGS UNITS 2 AND 3**

20 SDG&E intends to submit testimony by April 15, 2016 demonstrating the reasonableness  
21 of its 2014 and 2015 SONGS 2 and 3 costs and that compares 2014 and 2015 SONGS 2 and 3  
22 costs relative to the 2014 Units 2 and 3 DCE. SDG&E also will submit testimony demonstrating  
23 the reasonableness of its 2014 to 2015 SDG&E-only costs for Units 1, 2 and 3 by April 15, 2016.  
24 By December 1, 2016, SDG&E also intends to submit supplemental testimony in this proceeding  
25 after an updated DCE is completed for Units 2 and 3. This update is pending completion of  
26 contracting with the decommissioning general contractor in order to reflect firmed costs. In this  
27 supplemental testimony, SDG&E will describe its efforts to review the updated 2016 Units 2 and  
28 3 DCE and discuss any potential variances between the 2016 DCE and the 2014 DCE.

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<sup>4</sup> The \$2.8 million disallowance equated to \$1.7 million after taxes reimbursed to the Unit 1 Trust.

1 **PREPARED DIRECT TESTIMONY**  
2 **ON BEHALF OF SDG&E**  
3 **CHAPTER II**  
4 **ADAM H. LEVIN**

5 **I. INTRODUCTION**

6 The purpose of my testimony in this proceeding is to provide my expert opinion on  
7 decommissioning and spent nuclear fuel management matters at SONGS Unit 1. Herein I briefly  
8 discuss the federal and state agency oversight and regulatory expectations for decommissioning,  
9 and the major drivers of decommissioning cost and schedule. I have included in this testimony  
10 my findings for my review of the 2016 SONGS Unit 1 DCE update, and for the reasonableness  
11 of SONGS Unit 1 activities which occurred during the period 2013-2015.

12 SDG&E has retained me as one of its decommissioning experts. Part of my role is to  
13 provide expert opinion to SDG&E on decommissioning activities performed at SONGS, and on  
14 the DCEs performed in support of SONGS decommissioning. At SDG&E's request I provide  
15 my feedback on decommissioning activities being currently undertaken, and provide critical  
16 review of the DCEs for SONGS.

17 During my more than 38-year career in the commercial nuclear industry, I have  
18 participated in 11 major decommissioning projects.<sup>5</sup> I have had the opportunity to develop and  
19 review decommissioning cost estimates for more than 40 commercial nuclear units. In my  
20 opinion, the 2016 SONGS Unit 1 DCE and the 2014 SONGS Units 2 & 3 DCE provide realistic  
21 estimates of the costs expected to be incurred while decommissioning the site. The DCEs use  
22 industry-accepted methods for cost estimating, appropriate site-specific inputs, and reasonable,  
23 conservative assumptions regarding the disposition of radiological, hazardous and municipal  
24 waste from the site. Additionally, the DCEs generally conform to the guidance on preparing  
25 decommissioning cost estimates provided by the NRC.<sup>6</sup>

26 Southern California Edison ("SCE") has chosen to immediately dismantle and  
27 decontaminate the SONGS site. This approach to decommissioning is known as "DECON." In

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<sup>5</sup> Specifically, Cintichem, Trojan Nuclear Plant, Big Rock Point Plant, Dresden Nuclear Power Station Unit 1, Pathfinder Generating Plant, Shippingport Atomic Power Station, Rancho Seco Nuclear Generating Station, Crystal River Unit 3, Zion Nuclear Power Station, Vermont Yankee Nuclear Power Plant and SONGS.

<sup>6</sup> U.S. Nuclear Regulatory Commission, Regulatory Guide 1.202, "Standard Format and Content of Decommissioning Cost Estimates for Nuclear Power Reactors," February 2005.  
<http://pbadupws.nrc.gov/docs/ML0502/ML050230008.pdf>.

1 DECON,<sup>7</sup> the major decommissioning activities at SONGS begin with (1) completing the  
2 transfer of spent nuclear fuel into dry cask storage, followed by (2) major equipment removal  
3 (e.g., the reactor vessel, reactor internals, steam generators, primary loop piping and valves), (3)  
4 removal of the balance of the plant systems, structures and components, and (4) restoration of the  
5 site.

6 Radioactively-contaminated components will be disposed of at the NRC-licensed low-  
7 level radioactive waste (“LLRW”) disposal facilities at Envirocare of Utah (“Envirocare”) and  
8 Waste Control Specialists (“WCS”) in Texas. Other non-hazardous, non-radioactive waste  
9 generated during decommissioning will be disposed of at an out-of-state municipal landfill. All  
10 of these activities and disposal plans are reasonably reflected in the DCEs.

11 When the site has been cleared of LLRW and municipal waste, SCE as the NRC licensee  
12 will (1) submit a license termination plan to NRC for its approval, and (2) the site will be  
13 restored to a state acceptable to the State of California and various federal agencies. Spent  
14 nuclear fuel will remain on site at the SONGS Independent Spent Fuel Storage Installation  
15 (“ISFSI”) until accepted and removed by the DOE for storage off site or disposal. These events  
16 have been properly reflected in the DCEs for SONGS.

## 17 **II. REGULATORY AGENCY OVERSIGHT AND EXPECTATIONS**

18 The NRC, various State of California (“State”) agencies, and the U.S. Department of the  
19 Navy (“Navy”) provide regulatory oversight and establish expectations for various aspects of  
20 SONGS decommissioning. As a general matter, the NRC has authority over radiological  
21 materials at SONGS, and the State exercises jurisdiction over other matters for which regulatory  
22 authority is imposed upon activities at SONGS. A land lease with the Navy drives the work  
23 required to restore the site after the NRC license is terminated.

24 The requirements for decommissioning a nuclear power plant are set out in numerous  
25 NRC regulations and regulatory guidance documents. Three NRC regulations provide much of  
26 the bases for decommissioning activities and licensee responsibilities as follows:

- 27 • Title 10 CFR Part 20 Subpart E – Provides the radiological criteria for license  
28 termination;

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<sup>7</sup> The DECON decommissioning scenario is defined by the NRC as “the equipment, structures, and portions of the facility and site that contain radioactive contaminants are promptly removed or decontaminated to a level that permits termination of the license after cessation of operations. (Decontamination is initiated within a couple of years after shutdown and continues until completed, usually within 7 to 10 years)”. *Id.* at I.202-3.

- Title 10 CFR Part 50.75 – Provides the requirements for demonstrating financial assurance, and reporting and recordkeeping requirements; and
- Title 10 CFR Part 50.82 – Provides other requirements for terminating the site license.

NRC regulations and guidance require that licensees continue to meet all 10 CFR Part 50 licensing requirements during decommissioning, which are fully protective of public health and safety. Additionally, the NRC continuously seeks to ensure sufficient funding remains available at all times to complete radiological decommissioning (reducing levels of residual radioactivity created during plant operations to below levels deemed acceptable by NRC), and to safely manage spent nuclear fuel (“SNF”) until it is accepted by the Department of Energy (“DOE”) for disposal.

As noted, several State agencies have jurisdiction over a number of decommissioning activities. These State agencies have a role in:

- Setting rates for collection of ratepayer contributions to the decommissioning trust funds;
- Determining where municipal waste generated during decommissioning must be shipped;
- Permitting the expansion of the IFSFI; and
- Disposition of off-shore intake and discharge structures.

Finally, the real property that the plant sits on is an easement from the Navy. This easement requires all improvements to the site be removed and the site returned to its pre-use condition.

Oversight by the aforementioned agencies will continue to drive the strategy and performance of decommissioning activities at SONGS. My observations of cost and schedule below have been formed based upon my knowledge of the interaction of these agencies with SCE, SDG&E, the City of Riverside and the City of Anaheim (collectively, the “Owners”<sup>8</sup>), and other interested stakeholders to the decommissioning process.

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<sup>8</sup> While the City of Anaheim is no longer an Owner *per se*, it remains responsible for its share of decommissioning and spent fuel costs from its prior ownership stake.



1 **III. MAJOR DRIVERS OF DECOMMISSIONING COST AND SCHEDULE**

2 There are a definable number of major drivers impacting decommissioning cost and  
3 schedule specifically applicable to the SONGS project. Site specific material quantities, labor  
4 costs, energy costs, insurance, property taxes and other costs recognized in NRC regulatory  
5 guidance and industry decommissioning experience must be present in a comprehensive SONGS  
6 DCE. In order to develop a logical decommissioning schedule and a realistic estimate of  
7 decommissioning costs, the SONGS DCEs must address the following site specific critical  
8 assumptions in reasonable detail:

- 9 1) Site security and emergency response requirements;  
10 2) The continuing availability of LLRW and municipal disposal facilities accepting  
11 waste from SONGS;  
12 3) Agreement between the SONGS participants, State of California and the U.S.  
13 Department of the Navy officials upon the site’s end state conditions; and  
14 4) The date assumed by which the DOE will complete its obligation to accept and  
15 remove spent nuclear fuel from SONGS for storage off site or disposal.

16 The significant site specific critical assumptions above – with the exception of the last,  
17 the “DOE Start Date” – have not changed since the issuance of the 2014 SONGS Units 2 & 3  
18 DCE. SCE and SDG&E have continued to pursue a better understanding of the rapidly changing  
19 factors impacting the DOE Start Date. They have concluded, and I agree, a new DOE Start Date  
20 – 2028 – should be used going forward. The new DOE Start Date has been incorporated into the  
21 2016 SONGS Unit 1 DCE and will be included in the SONGS Units 2 & 3 DCE at a later time.

22 **IV. 2016 SONGS UNIT 1 DECOMMISSIONING COST ESTIMATE**

23 Many of the costs underlying the decommissioning of a nuclear plant are identifiable, are  
24 well understood, and are similar (in scope) at commercial nuclear plant decommissioning across  
25 the United States. These include labor, waste disposal, regulatory fees and other normal business  
26 costs incurred to operate a major construction project (in this case, taxes, fees, energy, etc.).

27 Other significant site-specific costs, as noted above, need to be addressed to complete the DCE  
28 picture for SONGS. All of these cost components have been reasonably addressed in the 2016  
29 SONGS Unit 1 DCE.

1 One principal change in SONGS decommissioning assumptions identified in the 2016  
2 SONGS Unit 1 DCE is the date assumed for DOE performance under the Standard Contract - to  
3 begin accepting spent nuclear fuel for disposal (the “DOE Start Date”).

4 The DOE Start Date and the rate at which the DOE will remove spent nuclear fuel have  
5 been the subject of much public speculation. The 2016 SONGS Unit 1 DCE assumes the DOE  
6 will begin removing fuel in 2028, based upon a previously assumed DOE Start Date of 2024 in  
7 the 2012 SONGS Unit 1 DCE, plus an additional four years delay since that estimate of  
8 performance. SDG&E has independently reviewed this assumption to assess the reliability of the  
9 adjusted, assumed 2028 DOE Start Date.

10 On July 18, 2006, DOE proposed that pending full Congressional funding, geologic  
11 repository operations would begin in approximately 11 years - on March 31, 2017. Given a  
12 delay of 10 years from the 2006 announcement without any action, it is arguable that a “one-for-  
13 one” delay since 2006 would place DOE repository operations and the DOE Start Date to 2027.

14 Based upon work performed in 2008 and published in January 2009, DOE revised the  
15 estimated start date based upon updated transportation plans, pushing the DOE Start Date to no  
16 earlier than 2020 – approximately 11 years would be required to implement transportation to a  
17 geologic repository. Again, arguing a “one-for-one” delay since 2008 would place DOE  
18 repository operations and the DOE Start Date to 2028.

19 Since these announcements, much has transpired, including the termination of the  
20 licensing process at Yucca Mountain, and the commissioning and completion of a federal  
21 Administration study on the future of managing spent nuclear fuel and high-level radioactive  
22 waste. The Blue Ribbon Commission report recommended, among other matters, that a program  
23 to site consolidated interim storage facilities (“ISF”) - with the goal of first accepting spent  
24 nuclear fuel from shutdown plants - be pursued (“the Pilot ISF”). This DOE-sponsored ISF  
25 approach would have begun removing spent fuel from shutdown plants followed by others in  
26 industry by 2021. The DOE-assumed start date for Pilot ISF operations was predicated on work  
27 beginning on the Pilot ISF by January 2014. The Pilot ISF program has yet to be launched –  
28 Congress has not allocated the funding required, and federal legislation needed in order for the  
29 DOE to move forward has yet to be enacted.

30 DOE has stated that federal legislation will be required to implement the Blue Ribbon  
31 Commission recommendations. Given that little has been done to advance an integrated spent

1 fuel management plan, little is expected to be done until sometime in 2018. (The 2017 federal  
2 budget will be developed in 2016, under the auspices of the current administration. The 2018  
3 federal budget will be assembled after the 2016 presidential election, sometime in 2017. Pending  
4 an outcome which favors moving forward with the development of geologic repository – or an  
5 interim storage facility – funding may be available sometime in late 2017 to early 2018.)

6 It is my opinion that approximately the same amount of time would be required to begin  
7 operations at a geologic repository or a Pilot ISF. In either circumstance – a geologic repository  
8 or an ISF – the start of operations schedule will be strongly driven by development of the  
9 transportation program (which is similar for both) and the NRC licensing process. At this  
10 juncture (the license for a geologic repository already accepted by NRC for review, and a Pilot  
11 ISF licensing process being initiated), the NRC licensing process is anticipated to be very similar  
12 in terms of schedule. Assuming Congressional authority to proceed and the proper funding  
13 authorizations established by late 2017 or early 2018, and using either my estimate of 10 years or  
14 DOE’s estimate of 11 years from authorization to repository operation, a 2028 DOE Start Date is  
15 reasonable.

16 Based upon my review of the 2016 SONGS Unit 1 DCE, my knowledge of and  
17 involvement in previous industry decommissioning projects, and my familiarity with the history  
18 of spent nuclear fuel management and pending programs to do the same, I find the 2016 SONGS  
19 Unit 1 DCE to be a reasonable estimate of the anticipated costs.

20 **V. REVIEW OF SONGS UNIT 1 DECOMMISSIONING ACTIVITIES 2013-2015**  
21 **INCLUSIVE**

22 In accordance with the Commission’s direction in D.14-12-082 for reasonableness  
23 reviews, SCE and SDG&E are required to compare recorded decommissioning expenses to the  
24 previously approved 2012 SONGS Unit 1 DCE. SCE has provided financial details for the  
25 period 2013-2015, for this NDCTP, in the testimony of Mr. Bledsoe. Separately, I have  
26 reviewed the activities performed and the costs incurred for SONGS Unit 1 decommissioning  
27 during the period 2013-2015. My review addressed the requirements for performing these  
28 activities as part of the decommissioning process.

29 Phase II of the SONGS Unit 1 decommissioning project commenced on January 1, 2009.  
30 Phase II decommissioning activities performed during 2013 – 2015 included:

- 1) Disposition of the SONGS Unit 1 Offshore Intake and Discharge Conduits consistent with an amendment to SCE's Grant of Easement with the California State Lands Commission;
- 2) Groundwater sampling and monitoring of the 14 wells installed by SCE as part of the Nuclear Energy Institute ("NEI") Groundwater Protection Initiative to monitor the groundwater beneath the SONGS Unit 1 site for the presence of tritium;
- 3) Security, maintenance and monitoring of the SONGS Unit 1 spent fuel stored at the SONGS site;
- 4) Updating the 2012 SONGS 1 DCE;
- 5) NRC fees; and
- 6) Insurance (e.g., workers' compensation, property and liability).

Based upon my understanding of NRC regulatory and State requirements, the activities performed and decommissioning costs incurred at SONGS Unit 1 are expected and consistent with industry practices. My review of SCE's testimony of Mr. Bledsoe finds the costs identified to be reasonable for the work performed.

**PREPARED DIRECT TESTIMONY**  
**ON BEHALF OF SDG&E**  
**CHAPTER III**  
**AMIR MOFTAKHAR**

**I. INTRODUCTION**

The purpose of my testimony in this proceeding is to demonstrate that the estimate of future SDG&E-only SONGS costs for Units 1, 2 and 3 is reasonable.

**II. ESTIMATE OF FUTURE SDG&E-ONLY COSTS IS REASONABLE**

In addition to SDG&E's 20% share of the costs that SCE invoices to SDG&E, SDG&E anticipates incurring SDG&E-only (100%) Labor and Other/Non-Labor costs throughout the SONGS decommissioning process. A detailed estimate of SDG&E-only costs is provided in Attachment A to this testimony. As summarized in Table AKM-1, SDG&E estimates its future total internal costs over the decommissioning period for SONGS Units 1, 2 and 3 to be \$42.598M (2014\$).<sup>9</sup>

<b>Table AKM-1</b>			
<b>SDG&amp;E SONGS DECOMMISSIONING COSTS (1,000's, 2014\$)</b>			
<b>Total Units 1,2&amp;3</b>	<b>SDG&amp;E Labor</b>	<b>Other/ Non-Labor</b>	<b>Total Costs</b>
License Termination	\$11,602	\$ 5,487	\$17,089
Spent Fuel Management	\$ 8,801	\$ 7,193	\$15,994
Site Restoration	\$ 5,493	\$ 4,022	\$ 9,515
<b>Total</b>	<b>\$25,896</b>	<b>\$16,702</b>	<b>\$42,598</b>

As SONGS has shifted to the decommissioning phase, SDG&E continues to incur reasonable and prudent costs related to its oversight of the decommissioning process at SONGS. This includes internal labor and non-labor costs as well as costs associated with outside decommissioning experts/counsel. SDG&E has provided previous estimates of its internal costs associated with decommissioning<sup>10</sup> and, as we have previously testified, we expect cost and resource estimates to be refined as the decommissioning effort moves forward and we get

<sup>9</sup> Unit 1 would be allocated 5.15% of these costs (\$2.194M), Unit 2 would be allocated 46.00% of these costs (\$19.595M) and Unit 3 would be allocated 48.85% of these costs (\$20.809M) (2014\$).

<sup>10</sup> Ex. SDGE-01-R-E-A (De Marco) at 13-16, submitted in A.14-12-007, *Joint Application of [SCE and SDG&E] to Find the 2014 SONGS Units 2 & 3 Decommissioning Cost Estimate Reasonable* (December 10, 2014).

1 updated information on actual costs.<sup>11</sup> Drawing on SDG&E’s most recent experience, we  
2 provide an updated estimate of SDG&E labor costs, SDG&E non-labor costs, contingency, and  
3 escalation rates in the following sections.

4 **A. Allocations of Estimated SDG&E-Only Costs Between NRC**  
5 **Decommissioning Categories**

6 As summarized in Table AKM-1 and detailed in Attachment A, both the SDG&E Labor  
7 and Other/Non-Labor costs have been allocated to the three traditional NRC categories of  
8 License Termination, Spent Fuel Management, and Site Restoration. These categories are  
9 designated by federal regulations for radiological decontamination (identified in Table AKM-1  
10 as License Termination) and spent fuel storage (identified in Table AKM-1 as Spent Fuel  
11 Management) and by the terms of the easement/lease contracts specific to SONGS (identified in  
12 Table AKM-1 as Site Restoration). To make this allocation, I determined the percentage of DCE  
13 costs SCE allocated to each category and then multiplied the SDG&E-only costs by that same  
14 percentage in order to approximate the costs to be incurred by SDG&E in each NRC category.

15 **B. SDG&E Labor**

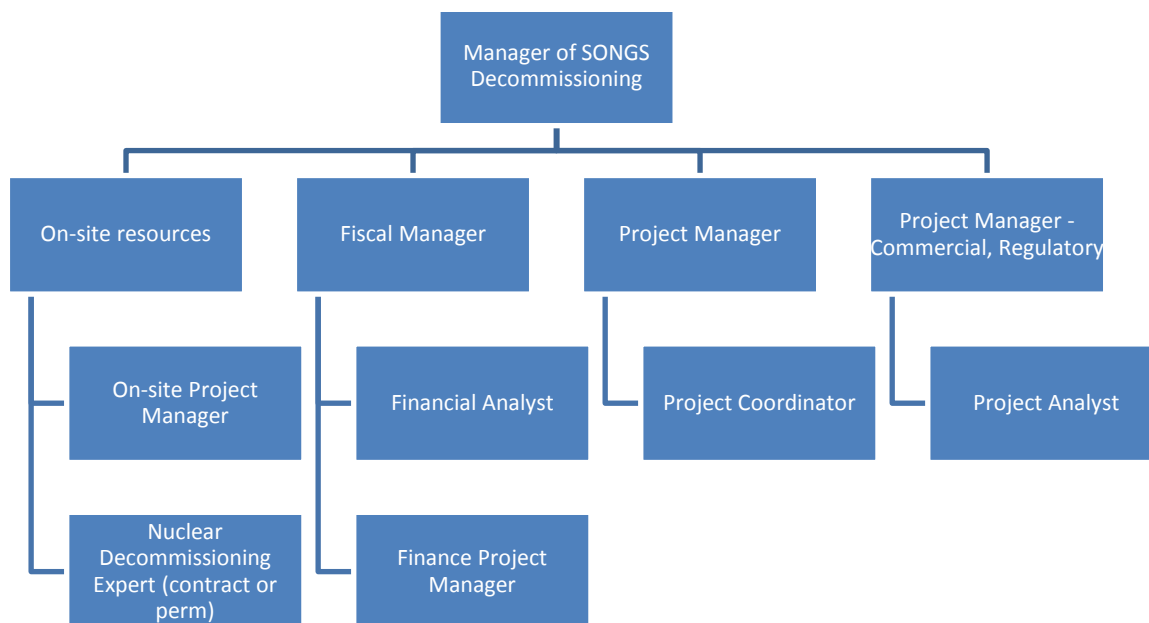
16 The first category in Table AKM-1 - “SDG&E Labor” - includes SDG&E staff that  
17 provide oversight of SONGS decommissioning costs and activities. SDG&E expects internal  
18 staffing levels to directly correlate with the intensity of decommissioning activities. As  
19 decommissioning activities ramp up, SDG&E will provide the appropriate resources to fulfill its  
20 responsibilities. SDG&E intends to create a small, dedicated, and focused core team to oversee  
21 SONGS decommissioning activities. By creating this core team, SDG&E will be able to more  
22 effectively manage costs and more efficiently oversee decommissioning activities.

23 As we move forward through the decommissioning period when the SONGS plant is  
24 physically dismantled, SDG&E envisions that its SONGS team may be organized along the lines  
25 of the following structure set forth below in Table AKM-2 (although the ultimate build-out will  
26 depend on whether there is a demonstrated need for resources). The goal of this team is to  
27 manage SDG&E’s oversight of decommissioning activities in an efficient and effective manner  
28 from a technical, regulatory and financial perspective.

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<sup>11</sup> *Id.* at 14.

**Table AKM-2**



SDG&E expects to supplement this focused core team with specific industry expertise and legal representation detailed in Section C below.

**C. Other/Non-Labor**

The second type of SDG&E-only costs identified in Table AKM-1 is “Other/Non-Labor.” The “Other/Non-Labor” category consists of three specific types of costs: decommissioning consultants external to SDG&E, decommissioning counsel external to SDG&E, and direct costs related to oversight activities.

SDG&E continues to retain an external decommissioning consultant, Mr. Adam Levin, who possesses nuclear decommissioning industry experience. Mr. Levin’s qualifications are provided in Chapter VIII herein. SDG&E relies on Mr. Levin’s established expertise in the nuclear decommissioning industry to substantiate that SCE’s decommissioning activities and related costs are consistent with similar nuclear stations undergoing decommissioning. Mr. Levin’s expertise and advice has been invaluable and SDG&E plans to continue to use Mr. Levin’s services as needed. In addition, SDG&E may add additional nuclear decommissioning expertise through a consultant or a contract team member. As SDG&E proceeds through the decommissioning process, it is clear that specific decommissioning expertise in decommissioning projects for other utilities can provide significant benefits for ratepayers and independently assure SDG&E that the efforts at SONGS are consistent with

1 industry practice. The services of Mr. Levin, and an additional outside consultant or team  
2 member, will follow the decommissioning activities in terms of use and intensity. SDG&E  
3 expects high utilization of this type of expertise over the near term. SDG&E expects the need for  
4 such expertise to taper off following the completion of the dismantling work, when SONGS will  
5 have only spent fuel on site while awaiting DOE pickup and final license termination.

6 SDG&E also has retained outside legal counsel with expertise in nuclear  
7 decommissioning issues to represent SDG&E and provide legal advice on numerous  
8 decommissioning topics. The costs associated with this area are difficult to anticipate or  
9 estimate, but SDG&E has endeavored to include a reasonable estimate of outside legal costs  
10 based on anticipated future activities consistent with the level of use of its outside consultant  
11 described above.

12 SDG&E also supports the implementation of a document management system for  
13 SDG&E's SONGS records. Because SONGS has had more than five decades of operations, the  
14 volume of records is quite significant, even for a co-owner such as SDG&E. Because operations  
15 have now ceased, the time is right for SDG&E to convert any and all paper records to an  
16 electronic format. SDG&E's cost estimate for this effort is based on bids received by SCE to  
17 manage its SONGS files.

18 Finally, SDG&E incurs direct costs related specifically to its oversight activities at  
19 SONGS. These cost projections are based upon SDG&E's current expenses related to SONGS  
20 oversight, which include travel reimbursement, phone services, ongoing professional education  
21 and wireless communication, which correspond to the SDG&E SONGS oversight personnel.

#### 22 **D. Contingency**

23 To be consistent with the assumptions in the decommissioning cost estimates, a  
24 contingency of 25% was added to the estimated SDG&E-only costs for future years to help  
25 manage risk associated with currently unknown events as SDG&E proceeds through the  
26 decommissioning process and learns more about its needs during decommissioning and incurs  
27 actual costs.

#### 28 **E. Escalation**

29 The costs provided in Table AKM-01 are shown in 2014 dollars. Any potential escalated  
30 costs would use the same escalation projections that SCE utilizes from the IHS Global Insight



1 economic forecasting service. This service has been used in past escalation projections by both  
2 utilities.

1 **PREPARED DIRECT TESTIMONY**  
2 **ON BEHALF OF SDG&E**  
3 **CHAPTER IV**  
4 **TRACY DALU**

5 **I. INTRODUCTION**

6 The purpose of my testimony is to (1) describe the accounting processes used to review  
7 the SONGS decommissioning invoices received by SCE, (2) address the proposed SDG&E cost  
8 recovery approach for future interim disbursement advice letter requests to withdraw funds from  
9 the NDTs and (3) describe the accounting process SDG&E will use for trust withdrawal requests  
10 and the associated payments from the SONGS NDTs.

11 **II. REVIEW OF DECOMMISSIONING COSTS INVOICED BY SCE**

12 SDG&E receives a decommissioning invoice from SCE on a monthly basis that, starting  
13 in 2015, segregates costs by unit and by decommissioning cost categories required by the NRC  
14 and/or the Commission. SCE's monthly invoice is billed to SDG&E approximately on the 20th  
15 day of the month for the previous month's costs. SDG&E is given 10 to 12 calendar days from  
16 the date the invoice is received until the payment date to process the invoice. The invoice is  
17 reviewed for reasonableness and accuracy and approved by SDG&E Generation Accounting, the  
18 Nuclear Team, and Accounting Management. Accounting's invoice review process includes  
19 confirming that the detailed actual cost files as well as the advanced funding request support  
20 package reconcile to the monthly invoiced amount for each unit and that all costs are classified  
21 by NRC and/or CPUC cost category as needed for trust fund withdrawals pursuant to NRC, IRS  
22 and CPUC requirements. Once Accounting has performed its initial review, the invoice package  
23 is sent to the Nuclear Team for its review and approval. (See testimony of Frank Thomas in  
24 Chapter I.)

25 Upon the Nuclear Team's and Accounting Management's review and approval,  
26 SDG&E's Generation Accounting Group enters the decommissioning invoice for payment in the  
27 Accounts Payable ("A/P") payment system. A separate vendor ID is used in the A/P system to  
28 then disburse authorized funds into a joint SCE-SDG&E "SONGS Decommissioning Cash  
29 Account" for payment of decommissioning costs to SCE ("Decommissioning Payment").

1 **III. SONGS UNIT 1 - NDT COST RECOVERY PROCESS**

2 As approved in D. 99-06-007, SDG&E currently has the authority to access trust funds  
3 for SONGS Unit 1 decommissioning costs as needed. The decision “authorize[d] the  
4 decommissioning of San Onofre Nuclear Generating Station Unit 1 (SONGS 1) and amendment  
5 of the Master Trust Agreements (MTAs) to facilitate timely availability of the funds to pay the  
6 costs of decommissioning.”<sup>12</sup> SDG&E’s current process is to request trust reimbursement for  
7 actual costs billed by SCE on a quarterly basis. The request is supported by SCE Unit 1  
8 decommissioning invoices that have been reviewed and approved by SDG&E Generation  
9 Accounting, the SDG&E Nuclear Team and by SDG&E Accounting Management. Once the  
10 request is approved, SDG&E Generation Accounting prepares a “Withdrawal Certificate,” which  
11 is approved and signed by authorized representatives designated by the SDG&E NDT  
12 Committee. Upon approval of the Withdrawal Certificate, the Pension and Trust Investment  
13 team contacts the SDG&E NDT Trustee, currently BNY Mellon, and arranges for assets to be  
14 sold from the NDTs. Once this is complete, the Trustee wires cash to reimburse SDG&E.

15 **IV. SONGS UNITS 2&3 – PROPOSED NDT COST RECOVERY PROCESS**

16 SDG&E will be seeking the authority to access trust funds for the upcoming year of  
17 forecasted decommissioning expenditures. Based on information provided by SCE and  
18 forecasted amounts included in the approved Decommissioning Cost Estimate (“DCE”), SDG&E  
19 will file a Tier 2 advice letter to request the authority to withdraw funds up to that forecasted  
20 amount in the following year. In future advice letters requesting trust disbursements, SDG&E  
21 will provide a list of work expected to be performed in each major cost category during the  
22 future period to be covered by that advice letter. This will include the estimated disbursement  
23 amounts required to cover the cost of SDG&E’s 20% share and SDG&E-only costs that are  
24 expected during the future period. It also will include an estimated amount to be spent for each  
25 activity during the period, a correlation of the activities and costs to the most recent cost study,  
26 and an explanation for any differences (amount and timing) from the most recent DCE. SDG&E  
27 will file a second Tier 2 advice letter in the following year with a true up of actual expenses to  
28 the forecast.

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<sup>12</sup> D.99-06-007 at 2.

1 **V. SONGS UNITS 2&3 - WITHDRAWAL REQUEST PROCESS**

2 If SDG&E's access to trust funds for forward-looking decommissioning expenditures is  
3 approved, SDG&E will initiate new processes to allow for quick and accurate reimbursement  
4 from the NDTs. Similar to the process noted above for Unit 1, after reviewing SONGS Units  
5 2&3 decommissioning costs billed by SCE (or incurring an SDG&E-only cost), SDG&E's  
6 Generation Accounting Group will prepare a "Withdrawal Certificate," which requires the  
7 approval and signature of authorized representatives designated by SDG&E's NDT Committee.  
8 Upon approval of the Withdrawal Certificate, the Pension and Trust Investment team will contact  
9 the SDG&E NDT Trustee, currently BNY Mellon, and arrange for assets to be sold from the  
10 NDTs. Once this is complete, the Trustee will wire cash to reimburse SDG&E for  
11 decommissioning payments made to SCE or for its own internal decommissioning costs ("Trust  
12 Reimbursement").

1 **PREPARED DIRECT TESTIMONY**

2 **ON BEHALF OF SDG&E**

3 **CHAPTER V**

4 **MIKE WOODRUFF AND STEVE BECK**

5 **I. AMOUNT OF DECOMMISSIONING TRUST FUND CONTRIBUTIONS**

6 **(M. Woodruff)**

7 **A. Introduction**

8 The purpose of my testimony is to review, update and provide support for the annual  
9 ratepayer contributions necessary to adequately fund the NDTs<sup>13</sup> for SONGS Unit 1.<sup>14</sup> SDG&E  
10 maintains that the SONGS Unit 1 NDTs are adequately funded for this triennial period and no  
11 contributions are required.

12 **B. Present Funding Levels and Trust Balances for SONGS 1**

13 SDG&E does not currently contribute funds to its SONGS Unit 1 NDTs. As of  
14 December 31, 2015, the market value of SDG&E's NDTs for SONGS Unit 1 was \$151.54  
15 million.<sup>15</sup> This equates to a liquidation value, after fees and taxes, of \$132.66 million. The  
16 liquidation value of the NDTs represents the amount of funds available to fund decommissioning  
17 activities.

18 **II. FINANCIAL ASSUMPTIONS AND RATE OF RETURN (S. Beck)**

19 **A. Trust Funds**

20 California statute and the Commission require SDG&E to establish externally managed  
21 trust funds as the vehicles for accumulating funds for the decommissioning of SONGS. SDG&E  
22 established one trust as the vehicle to hold the decommissioning funds for contributions which  
23 qualify for an income tax deduction under Section 468A of the Internal Revenue Code  
24 ("Qualified Trust"). SDG&E also established one nonqualified trust, which does not qualify for  
25 an income tax deduction under Section 468A of the IRC ("Nonqualified Trust").

26 **B. Portfolio Management and Asset Allocations**

27 SDG&E applies a relatively low portfolio turnover rate of approximately 15-20 percent  
28 per annum, which allows for a greater compound growth rate and greater returns because

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<sup>13</sup> This includes the nonqualified and qualified trusts.

<sup>14</sup> This testimony only addresses SONGS Unit 1. The issue of potential ratepayer contributions for SONGS Units 2 and 3 – if any – will be addressed in a later phase of this proceeding.

<sup>15</sup> The total trust balance for all three units was publicly reported in SDG&E's 10-K, filed on February 26, 2016.

1 taxation of gains is deferred. SDG&E's Trust allocations are targeted to minimize downside risk  
2 while maintaining a margin of safety at the end of decommissioning to account for unexpected  
3 costs. SDG&E's Unit 1 Qualified Trust is currently allocated approximately 60 percent to  
4 equities and 40 percent to fixed income. SDG&E's Unit 1 Nonqualified Trust is allocated 100  
5 percent to fixed income.

6 SDG&E forecasts a five-year scale down out of equities from 2016 to 2020.<sup>16</sup> Beginning  
7 in 2016, the overall asset allocation will gradually shift, such that the allocation to equity will fall  
8 in each year by six percentage points until reaching 30 percent in 2020. By 2020, SDG&E's  
9 Qualified Trust will be allocated approximately 30 percent to equities and 70 percent to fixed  
10 income. The purpose of SDG&E's equity scale down is to reduce equity market risk in the years  
11 immediately prior to and during the years in which substantial decommissioning costs are  
12 expected to be incurred.

13 SDG&E plans to continue to invest the equity portion of its Qualified Trust in domestic  
14 and international securities. The weighting to domestic equity and international equity should  
15 continue to be 70 percent and 30 percent, respectively.

16 SDG&E expects to invest its fixed income portion of its Qualified Trust in intermediate  
17 municipal bonds, intermediate credit, and high quality short duration securities. The weighting  
18 to intermediate municipal bonds and intermediate credit should be split evenly across the two  
19 asset classes. The weighting to high quality short duration securities will vary depending upon  
20 12-month rolling liquidity requirements.

21 The Nonqualified Trust will remain exclusively invested in municipal bonds.

### 22 **C. Rate of Return**

23 Based on a simple weighted average of long-term capital market assumptions provided  
24 by five investment consulting firms, including Mercer, Aon-Hewitt, Towers Watson, LCG  
25 Associates, and Russell Investments, SDG&E estimated projected returns for each asset class in  
26 the Qualified and Nonqualified Trust. From 2016 to 2047 the projected Qualified Trust pre-tax

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<sup>16</sup> The SDG&E Nuclear Decommissioning Trust Fund Committee engaged an outside consulting firm to conduct an asset liability modeling study for Unit 2 and Unit 3 based on the expected costs from the 2014 DCE. At the conclusion of the study, the Committee adopted a de-risking glide path strategy for Unit 2 and Unit 3 in 2015. The Committee is anticipated to conduct an asset liability modeling study for Unit 1 using the 2016 Unit 1 DCE.

1 returns are 7.6 percent and 3.8 percent for equity and fixed income, respectively. From 2048  
2 through 2051 the projected Qualified Trust fixed income pre-tax return is 3.3 percent.

3 The Nonqualified Trust is 100 percent invested in municipal bonds; therefore, SDG&E  
4 does not have an equity return assumption for the Nonqualified Trust. The updated pre-tax  
5 return is 3.4 percent for the Nonqualified Trust.

### 6 **III. REQUIREMENTS REGARDING THE TRUST FUND COMMITTEE (S. Beck)**

7 Ordering paragraph No. 13 of D.14-12-082 states:

8 Southern California Edison Company, San Diego Gas & Electric  
9 Company, and Pacific Gas and Electric Company shall ensure that  
10 their respective Nuclear Decommissioning Trust Fund Committee  
11 members timely receive the following information:

- 12 • Audited financial statements for the decommissioning trust  
13 funds;
- 14 • Initiation of investment fund manager searches;
- 15 • Decommissioning cost schedules, including acceleration or any  
16 other significant changes;
- 17 • Approval of nuclear facility license extension; and
- 18 • Withdrawals of Trust Funds for decommissioning expenses.

19 This section describes SDG&E's efforts to keep the Committee informed.

- 20 1) Audited financial statements for the decommissioning trust funds are sent to  
21 Committee members as statements are available. Audited statements for 2012 and  
22 2013 were sent in March 2015 and audited 2014 statements will be submitted in the  
23 first half of 2016.
- 24 2) The Committee approves of the initiation of all investment manager searches. This  
25 typically occurs when the Committee changes the overall asset allocation or  
26 terminates a manager(s). Manager performance reports are sent to the Committee  
27 members on a quarterly basis which cover performance, performance attribution,  
28 firm/organizational updates, and changes in assets under management, among other  
29 relevant topics.
- 30 3) SDG&E provides periodic updates to the Committee on decommissioning cost  
31 schedules, including acceleration or any other significant changes.
- 32 4) License extension for SONGS is not applicable.
- 33 5) SDG&E has informed the Committee of withdrawals of trust funds for  
34 decommissioning expenses on a periodic basis. SDG&E also has presented detailed

1 cost estimates, as appropriate, to the Committee when conducting asset liability  
2 modeling studies.

#### 3 **IV. CALCULATING ANNUAL DECOMMISSIONING CONTRIBUTIONS**

##### 4 **(M. Woodruff)**

5 There are four key elements used in determining the annual rate payer contribution  
6 amount: (1) trust fund liquidation values, (2) current-dollar decommissioning cost studies,  
7 (3) cost escalation rates,<sup>17</sup> and (4) after-tax rates of return. Annual cost escalation rates convert  
8 the DCE from current dollars to the dollars of the year when they will actually be incurred, and  
9 these future cost estimates are treated as withdrawals from the trust fund balances. The  
10 estimated after-tax rates of return are used to calculate the expected growth in the  
11 decommissioning trust fund balances.

##### 12 **A. Proposed Funding Levels for SONGS 1**

13 Using the current liquidation value of the NDTs, the 2016 Unit 1 DCE (attached to SCE's  
14 testimony), projected escalation of decommissioning costs, and estimated trust returns, SDG&E  
15 forecasts that the NDTs contain sufficient funds to complete SDG&E's 20 percent share of  
16 SONGS Unit 1 decommissioning and to cover SDG&E-only costs. Therefore, SDG&E proposes  
17 to maintain the annual ratepayer contribution rate at zero (\$0.00). This is based on SDG&E's  
18 20% share of the 2016 Unit 1 DCE as well as SDG&E-only costs, for a total of \$50.08 million  
19 (2014\$).

20 SDG&E concludes that the SONGS Unit 1 NDTs are adequately funded and no  
21 contributions are required. However, this situation could change based on many factors,  
22 including but not limited to changes in economic conditions, changes in timing of and/or amount  
23 of decommissioning costs, changes in interest rates, and changes in escalation rates. In addition,  
24 SDG&E's request for zero (\$0.00) contributions at this time is not a waiver of any future  
25 requests by SDG&E for ratepayer contributions to the NDTs.

26 In summary, SDG&E forecasts that the NDTs contain sufficient funds to complete  
27 SDG&E's share of SONGS Unit 1 decommissioning and, as a result, SDG&E proposes that  
28 ratepayer contributions to the NDTs remain at zero (\$0.00).

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<sup>17</sup> SDG&E uses the same cost escalation rates that SCE uses for this testimony.



**PREPARED DIRECT TESTIMONY**  
**ON BEHALF OF SDG&E**  
**CHAPTER VI**  
**NORMA JASSO**

**I. INTRODUCTION**

My testimony describes the Nuclear Decommissioning Adjustment Account (“NDAM”) and the revenue requirement recorded in the account January, 2013 through December, 2015.

**II. NDAM DESCRIPTION**

The purpose of the NDAM is to track recovery of the authorized revenue requirement for SDG&E’s contributions to the NDTs, plus authorized revenue requirement for costs relating to SONGS Unit 1 Offsite Spent Fuel Storage. This is done by comparing the authorized revenue requirement with revenues billed to ratepayers through the Nuclear Decommissioning (“ND”) component of SDG&E’s rates.

**III. REVENUE REQUIREMENT RECORDED IN NDAM FOR THE PERIOD  
JANUARY, 2013 THROUGH DECEMBER, 2015**

During the 2013 through 2015 period, SDG&E recorded revenue requirement authorized for Unit 1 Trust contributions at \$0 (zero);<sup>18</sup> Units 2&3 contributions were authorized and recorded at \$8.07 million<sup>19</sup> per year; and Unit 1 Offsite Spent Fuel Storage revenue requirement was recorded slightly over \$1 million<sup>20</sup> per year. Accordingly, SDG&E recorded in NDAM the revenue billed through the ND rate component, net of Franchise Fees and Uncollectibles (“FF&U”), and the total authorized revenue requirement.

<b>Revenue Requirement</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Unit 1 Trust Contributions	\$0	\$0	\$0
Units 2&3 Trust Contributions	\$8.07	\$8.07	\$8.07
Unit 1 Offsite Spent Fuel Storage	\$1.03	\$1.06	\$1.09

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<sup>18</sup> D.14-12-082 at Conclusion of Law (“COL”) 35.

<sup>19</sup> D.14-12-082 at COL 37.

<sup>20</sup> D.13-05-010 (with attrition).

1 **IV. REVENUE REQUIREMENT REQUEST FOR SONGS UNIT 1**  
2 **CONTRIBUTIONS**

3 As stated in Mr. Woodruff’s testimony, SDG&E proposes to maintain the annual  
4 ratepayer contribution rate at \$0 (zero) for SONGS Unit 1.<sup>21</sup>

5 **V. REVENUE REQUIREMENT REQUEST FOR SONGS UNIT 1 OFFSITE SPENT**  
6 **FUEL STORAGE COST**

7 Effective January 1, 2016, SDG&E utilizes the Energy Resource Recovery Account  
8 (“ERRA”) Forecast proceeding as a vehicle to request revenue requirement for SONGS Unit 1  
9 Offsite Spent Fuel Storage Cost. SDG&E’s request was approved by the Commission in D.15-  
10 12-032 Adopting SDG&E's 2016 Energy Procurement Cost Revenue Requirement Forecast and  
11 2016 GHG Related Forecast. SDG&E proposes to continue requesting the SONGS Unit 1  
12 Offsite Spent Fuel Storage Cost revenue requirement in future ERRA proceedings and is not  
13 requesting approval in this Application.

14 **VI. COMPLIANCE WITH PRIOR COMMISSION DECISION**

15 SDG&E has complied with the 2012 NDCTP decision. In D.14-12-082,<sup>22</sup> Ordering  
16 Paragraph No. 2, the Commission issued the following order:

17 Within ten (10) days of the effective date of this Decision, San  
18 Diego Gas & Electric Company (SDG&E) shall file a compliance  
19 advice letter with the Commission’s Energy Division, which shall  
20 include the calculated revenue requirement as described and  
21 adjusted in the Decision. SDG&E will clearly identify the  
22 overcollections in its Nuclear Decommissioning Adjustment  
23 Mechanism (NDAM) and other balancing accounts and regulatory  
24 accounts which it will use to offset the revenue requirement,  
25 subject to Energy Division determining that the offsets are in  
26 compliance with this order. The compliance advice letter shall be  
27 served on the service list for the consolidated proceedings and shall  
28 describe how [SDG&E] will implement the terms adopted in this  
29 Decision, including updating the revenue requirements to  
30 incorporate the December 31, 2013 nuclear decommissioning trust  
31 fund balances. The updated information shall serve as the basis for  
32 the Internal Revenue Service Schedule of Ruling Amounts for  
33 years 2014 and 2015. An adjustment to the NDAM balancing  
34 account shall be made to address any difference in the revenue

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<sup>21</sup> The issue of potential ratepayer contributions for SONGS Units 2 and 3 – if any - will be addressed in a later phase of this proceeding.

<sup>22</sup> Approved by the Commission on December 18, 2014.

1 collected in rates and the annual revenue requirements, as  
2 described and updated in the compliance advice letter.

3 SDG&E filed Advice Letter (“AL”) 2685-E on December 30, 2014<sup>23</sup> including the  
4 continuation of \$8.07 million authorized revenue requirement for contributions to SONGS Units  
5 2&3 and amortization of the 2013 year-end NDAM overcollected balance of (\$0.7) million as  
6 approved in D.14-12-082.

7 **VII. NDAM 2015 YEAR-END BALANCE**

8 The NDAM actual balance at December 31, 2015 is \$1.49 million undercollected. Of  
9 this balance, \$1.38 million was authorized per AL 2807-E<sup>24</sup> to be amortized in January 1, 2016  
10 rates. SDG&E has implemented in rates this amortization and will continue in the future to  
11 address the NDAM year-end projected balance in its Annual Electric Regulatory Account  
12 Update.

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<sup>23</sup> Consolidated Filing to Implement January 1, 2015 Electric Rates. Filed December 30, 2014 and approved March 2, 2015 with an effective date of January 1, 2015.

<sup>24</sup> Annual Electric Regulatory Account Update Effective January 1, 2016. Filed October 30, 2015 and approved on and effective as of November 23, 2015.

**PREPARED DIRECT TESTIMONY**  
**ON BEHALF OF SDG&E**  
**CHAPTER VII**  
**RAGAN REEVES**

**I. INTRODUCTION**

The purpose of my testimony is to discuss tax issues associated with the decommissioning of SONGS.

**II. TAX**

**A. Income Tax Treatment of Decommissioning Trusts**

SDG&E maintains external funds for the sole purpose of satisfying SDG&E's obligation to fully decommission its portion of the SONGS units. These external funds are maintained in trusts that are subject to a Qualified Master Trust Agreement or a Nonqualified Master Trust Agreement that govern separate trust accounts for each of the nuclear power plant units.<sup>25</sup> The Qualified Master Trust Agreement applies to tax-advantaged trusts that satisfy the requirements of Internal Revenue Code ("IRC") Section 468A. The Nonqualified Master Trust Agreement applies to trusts that do not have to satisfy the requirements of IRC Section 468A.

**B. Qualified Trusts**

Approximately 97% of SDG&E's trust funds are held in Qualified Trusts.<sup>26</sup> Qualified Trusts are tax-advantaged trusts that must meet the requirements of IRC Section 468A and its related Treasury Regulations. The tax-advantaged attributes include the ability of SDG&E to deduct amounts contributed into Qualified Trusts. In addition, the Federal income tax rate for Qualified Trusts when investment gains are realized is 20% instead of the maximum Federal corporate tax rate of 35%.

Regulations promulgated under IRC Section 468A by the IRS provide that taxpayers electing to establish a qualified nuclear decommissioning fund may maintain only one fund for each nuclear power plant (or unit thereof),<sup>27</sup> and the assets maintained in each fund may be used solely to satisfy the nuclear decommissioning liability of the nuclear power plant (or unit thereof)

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<sup>25</sup> SDG&E, the CPUC and the Trustee (currently BNY Mellon Bank) are the signatories to the SDG&E Qualified and Nonqualified Master Trust Agreements.

<sup>26</sup> This calculation is based on trust fund balances as of December 31, 2015.

<sup>27</sup> Treasury Regulations Section 1.468A-5(a)(1)(iii).

1 to which the nuclear decommissioning fund relates.<sup>28</sup> Each of the SONGS Units 1 through 3  
2 maintains Qualified Trusts for the sole purpose of decommissioning that particular unit. Thus,  
3 for example, funds held in trust to decommission Unit 2 cannot be redirected to decommission  
4 Unit 3 without violating the regulations. Once the funds are placed into a Qualified Trust, such  
5 funds can only be used for purposes of: (1) satisfying any of SDG&E’s liability for the  
6 decommissioning of the SONGS unit, (2) paying administrative and other incidental expenses of  
7 the trust in connection with the operation of the trust, (3) making investments, and (4) paying  
8 income taxes on investment returns. For purposes of satisfying SDG&E’s decommissioning  
9 liability, amounts extracted from the Qualified Trusts must only be for “nuclear  
10 decommissioning costs” as defined in Treasury Regulations Section 1.468A-1(b)(6) and related  
11 guidance, such as IRS responses to requests for private letter rulings. In addition, as amounts are  
12 extracted from the Qualified Trusts, SDG&E is required to recognize such amounts as taxable  
13 income in its tax returns. The Qualified Trusts also are required to comply with the terms of the  
14 SDG&E Qualified Master Trust Agreement.

15 If SDG&E were to use Qualified Trust funds contrary to the IRC or Treasury  
16 Regulations, it would jeopardize the beneficial tax status of the entire Qualified Trust and could  
17 cause the trust to be treated as having distributed all of its funds in a taxable transaction to  
18 SDG&E on the date of such disqualification.<sup>29</sup>

### 19 **C. Nonqualified Trusts**

20 SDG&E’s remaining trust funds (approximately 3%) are held in Nonqualified Trusts.<sup>30</sup>  
21 Nonqualified Trusts are trusts that do not need to meet the requirements of IRC Section 468A  
22 and its related Treasury Regulations. SDG&E’s Nonqualified Trusts are treated as grantor trusts  
23 of SDG&E, and any contributions paid into these Nonqualified Trusts were not deductible by  
24 SDG&E. In addition, any realized investment gains are taxed at the same Federal corporate tax  
25 rate as SDG&E (i.e., typically 35%).

26 Funds that are placed into the Nonqualified Trusts are not subject to the “use limitations”  
27 of IRC Section 468A, but are required to comply with the terms of the SDG&E Nonqualified  
28 Master Trust Agreement. As amounts are extracted from the Nonqualified Trusts to reimburse

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<sup>28</sup> Treasury Regulations Section 1.468A-5(a)(3)(i)(A).

<sup>29</sup> IRC Section 468A(e)(6).

<sup>30</sup> This calculation is based on trust fund balances as of December 31, 2015.

1 the Company for its share of decommissioning expenditures, SDG&E is not required to  
2 recognize such amounts as taxable income in its tax returns.

1 **STATEMENT OF WITNESS QUALIFICATIONS**

2 **CHAPTER VIII**

3 **WITNESS QUALIFICATIONS FOR FRANK W. THOMAS**

4 My name is Frank W. Thomas. I am employed by SDG&E as Manager of Electric  
5 Project Development and Business Planning. My business address is 8315 Century Park Court,  
6 San Diego, California 92123.

7 From 2013 through 2015, I was responsible, among other things, for the oversight and  
8 management of SDG&E’s participation in SONGS. I have been in this role for the past ten  
9 years. During this period, I had a small staff responsible for monitoring day-to-day activities at  
10 the site and tracking budgets and costs for SDG&E’s 20% share of SONGS.

11 I received my Bachelor’s Degree in Hydrology and a Master’s Degree in Civil  
12 Engineering from the University of New Hampshire. I also hold an MBA, with a focus on  
13 finance, from the New Hampshire College. Prior to being employed at SDG&E, I spent much of  
14 my career as a consultant, where I managed projects including the divestiture of utility assets and  
15 relicensing of FERC regulated hydroelectric projects. I spent four years with Citizen’s Utilities  
16 Company, where I valued hydroelectric assets and life-extending capital additions, represented  
17 the company in deregulation activities, and analyzed its generation portfolio relative to stranded  
18 benefits and costs. My work at Citizen’s culminated with strategic planning for the acquisition  
19 and divestiture of utility franchises.

20 I am sponsoring Chapter I in support of this Application. This material was personally  
21 reviewed by me and I believe it to be correct and that it is factual in nature. Insofar as the  
22 material is in the nature of opinion or judgment, it represents my best judgment. I have  
23 previously testified before this Commission.





1                                   **WITNESS QUALIFICATIONS FOR AMIR K. MOFTAKHAR**

2                   My name is Amir K. Moftakhar. I am employed by SDG&E as the Project Manager,  
3 SONGS for SDG&E. My business address is 8330 Century Park Court, San Diego, California  
4 92123.

5                   I received a Bachelor’s of Managerial Economics degree from the University of  
6 California, Davis in 2001. I received a Master’s of Business Administration from Pepperdine  
7 University in 2003 and a Master’s in Leadership from the University of Southern California in  
8 2014. I have been employed by SDG&E since 2009. I have over 15 years of professional work  
9 experience, with the vast majority of my experience in finance, financial operations and banking.  
10 In my current capacity as Project Manager, SONGS, I am responsible for helping to manage  
11 SDG&E’s oversight role as a co-participant for the SONGS decommissioning project.

12                   I am sponsoring Chapter III in support of this Application. This material was personally  
13 reviewed by me and I believe it to be correct and that it is factual in nature. Insofar as the  
14 material is in the nature of opinion or judgment, it represents my best judgment. I have  
15 previously testified before this Commission.

1 **WITNESS QUALIFICATIONS FOR TRACY M. DALU**

2 My name is Tracy M. Dalu and my business address is 8335 Century Park Court, San  
3 Diego, California 92123. I am a CPA and the Generation Accounting Supervisor at SDG&E.  
4 My primary responsibilities are to provide accounting and reporting for all SDG&E-owned  
5 generation facilities, including SONGS, and to provide financial information to support legal and  
6 regulatory filings. I also am responsible for the accounting and financial reporting of SDGE’s  
7 asset retirement obligations and ensuring that SDG&E is in compliance with Securities Exchange  
8 Commission (“SEC”) and regulatory reporting requirements. I have been in my current role  
9 since May of 2010. I began work at Sempra Energy in May 2002 as an accountant for Sempra  
10 Energy’s Global division and was responsible for the financial reporting of their generation fleet.  
11 My responsibilities included preparing financial statements, consolidations, cash flows, variance  
12 analysis and ensuring compliance with SEC reporting. Prior to my career at SDG&E, I spent  
13 three years working as an auditor for PriceWaterhouse Coopers. I graduated from San Diego  
14 State University in 1994 with a Bachelor’s of Science in Business Administration (Accounting  
15 emphasis) and obtained my CPA license in 2001.

16 I am sponsoring Chapter IV in support of this Application. This material was personally  
17 reviewed by me and I believe it to be correct and that it is factual in nature. Insofar as the  
18 material is in the nature of opinion or judgment, it represents my best judgment. I have  
19 previously testified before this Commission.

1                                   **WITNESS QUALIFICATIONS FOR MICHAEL R. WOODRUFF**

2                   My name is Michael R. Woodruff. My business address is 8330 Century Park Court, San  
3 Diego, California 92123. I am employed by SDG&E as a Project Manager in Financial &  
4 Strategic Analysis. I am responsible for overseeing the financial analysis and development of  
5 revenue requirements for SDG&E projects.

6                   I joined SDG&E in 2011. Prior to SDG&E, I was employed by Wells Fargo & Co. for  
7 twelve years, six years as a Financial Analyst and six years as a Finance Manager. I received a  
8 Bachelor of Science degree in Liberal Arts and Sciences from Iowa State University in 1994. I  
9 received a Master's of Business Administration degree with an emphasis in Finance from the  
10 University of Iowa in 1999.

11                  I am sponsoring Sections I and IV of Chapter V in support of this Application. This  
12 material was personally reviewed by me and I believe it to be correct and that it is factual in  
13 nature. Insofar as the material is in the nature of opinion or judgment, it represents my best  
14 judgment. I have not previously testified before this Commission.

1                                   **WITNESS QUALIFICATIONS FOR STEPHEN J. BECK**

2           My name is Stephen J. Beck. I am employed by Sempra Energy, SDG&E's parent  
3 company, as a Senior Investment Analyst. My business address is 488 8<sup>th</sup> Avenue, San Diego,  
4 California 92101. I am a member of an investment team that manages over \$7 billion in assets  
5 across taxable and tax-exempt plans including the defined benefit plan, defined contribution  
6 plan, nuclear decommissioning trust, and VEBA plans.

7           Prior to joining Sempra Energy in 2013, I worked as an Analyst for three years at the  
8 Walt Disney Company in Burbank, California as a member of an investment team that managed  
9 over \$10 billion in retirement plan assets.

10          I received a Bachelor's of Science Degree in Business Administration with a  
11 concentration in Finance and a minor in Economics from Ithaca College in Ithaca, NY. I also am  
12 a Chartered Financial Analyst ("CFA") Charterholder.

13          I am sponsoring Sections II and III of Chapter V in support of this Application. This  
14 material was personally reviewed by me and I believe it to be correct and that it is factual in  
15 nature. Insofar as the material is in the nature of opinion or judgment, it represents my best  
16 judgment. I have not previously testified before this Commission.

1 **WITNESS QUALIFICATIONS FOR NORMA G. JASSO**

2 My name is Norma G. Jasso. I am employed by SDG&E, as the Regulatory Accounts  
3 Analysis Manager in the Financial Analysis Department. My business address is 8330 Century  
4 Park Court, San Diego, California 92123. My current responsibilities include managing the  
5 process for the development, implementation, and analysis of regulatory balancing and  
6 memorandum accounts. I assumed my current position in July 2013.

7 I earned a Bachelor's of Business Administration degree with emphasis in Accounting  
8 from the University of San Diego in 1981. I also earned a Master's of Business Administration  
9 from the University of Phoenix in 1996. I have been employed by SDG&E and Sempra Energy  
10 since December, 1997. In addition to my current position, I served as Sundry Services Policy  
11 and Compliance Project Manager II, Affiliate Compliance Manager, Senior Business Analyst,  
12 and Accounting Systems Analyst.

13 I am sponsoring Chapter VI in support of this Application. This material was personally  
14 reviewed by me and I believe it to be correct and that it is factual in nature. Insofar as the  
15 material is in the nature of opinion or judgment, it represents my best judgment. I have  
16 previously testified before this Commission.

1                                   **WITNESS QUALIFICATIONS FOR RAGAN G. REEVES**

2                   My name is Ragan G. Reeves. I am employed by Sempra Energy, SDG&E’s parent  
3 company, as a Principal Tax Counsel. My business address is 488 8<sup>th</sup> Avenue, San Diego,  
4 California 92101. I advise SDG&E on the implications of federal and state tax law, including  
5 tax compliance issues, tax audit issues and strategies, and regulatory tax issues.

6                   Prior to joining Sempra Energy in 2005, I worked as a tax attorney for eight years at  
7 Miller & Chevalier, Chartered, in Washington, D.C., where my practice focused on tax credits,  
8 tax litigation, and tax controversy matters.

9                   I received a Bachelor’s of Business Administration in Accounting, a Master’s in  
10 Professional Accounting, and a Juris Doctorate from the University of Texas at Austin. I am  
11 licensed to practice law in the District of Columbia and Texas, and I am a registered in-house  
12 counsel in California. I also am a licensed Certified Public Accountant in Texas.

13                   I am sponsoring Chapter VII in support of this Application. This material was personally  
14 reviewed by me and I believe it to be correct and that it is factual in nature. Insofar as the  
15 material is in the nature of opinion or judgment, it represents my best judgment. I have  
16 previously testified before the Commission.

## **Attachment A**

### **SDG&E-Only Decommissioning Costs**

## Attachment A

### SDG&E-Only Decommissioning Costs (2014 Dollars in Thousands)

	SDG&E Labor Costs							SDG&E Contract Labor Costs				SDG&E Direct Costs							SDG&E Total	
	Manager	Proj Management	On-site	Fiscal	Overhead	Contingency	Total	Consultant	Overhead	Contingency	Total	Travel	Trust Expenses	Easement	Training	Prof Dues	Phone	Contingenc	Total	Total Costs
2016	\$165	\$433	\$133	\$349	\$908	\$497	\$2,486	\$350	\$3	\$88	\$441	\$2	\$215	\$22	\$1	\$1	\$34	\$69	\$344	\$3,271
2017	\$165	\$433	\$133	\$349	\$908	\$497	\$2,486	\$1,615	\$14	\$407	\$2,037	\$2	\$215	\$22	\$1	\$1	\$26	\$67	\$334	\$4,856
2018	\$165	\$433	\$133	\$349	\$908	\$497	\$2,486	\$205	\$2	\$52	\$259	\$2	\$215	\$22	\$1	\$1	\$26	\$67	\$334	\$3,078
2019	\$165	\$433	\$133	\$349	\$908	\$497	\$2,486	\$195	\$2	\$49	\$246	\$2	\$215	\$22	\$1	\$1	\$26	\$67	\$334	\$3,066
2020	\$165	\$433	\$133	\$349	\$908	\$497	\$2,486	\$185	\$2	\$47	\$233	\$2	\$215	\$22	\$1	\$1	\$26	\$67	\$334	\$3,053
2021	\$165	\$0	\$133	\$349	\$544	\$298	\$1,489	\$175	\$2	\$44	\$221	\$2	\$215	\$22	\$1	\$1	\$26	\$67	\$334	\$2,044
2022	\$165	\$0	\$133	\$349	\$544	\$298	\$1,489	\$165	\$1	\$42	\$208	\$2	\$215	\$22	\$1	\$1	\$26	\$67	\$334	\$2,031
2023	\$165	\$0	\$133	\$349	\$544	\$298	\$1,489	\$155	\$1	\$39	\$195	\$2	\$215	\$22	\$1	\$1	\$26	\$67	\$334	\$2,019
2024	\$165	\$0	\$133	\$349	\$544	\$298	\$1,489	\$145	\$1	\$37	\$183	\$2	\$215	\$22	\$1	\$1	\$26	\$67	\$334	\$2,006
2025	\$165	\$0	\$133	\$349	\$544	\$298	\$1,489	\$110	\$1	\$28	\$139	\$1	\$215	\$22	\$1	\$1	\$16	\$64	\$319	\$1,947
2026	\$165	\$0	\$133	\$0	\$250	\$137	\$686	\$50	\$0	\$13	\$63	\$1	\$215	\$22	\$1	\$1	\$16	\$64	\$319	\$1,068
2027	\$165	\$0	\$133	\$0	\$250	\$137	\$686	\$50	\$0	\$13	\$63	\$1	\$215	\$22	\$1	\$1	\$16	\$64	\$319	\$1,068
2028	\$165	\$0	\$133	\$0	\$250	\$137	\$686	\$50	\$0	\$13	\$63	\$1	\$215	\$22	\$1	\$1	\$16	\$64	\$319	\$1,068
2029	\$165	\$0	\$133	\$0	\$250	\$137	\$686	\$50	\$0	\$13	\$63	\$1	\$215	\$22	\$1	\$1	\$16	\$64	\$319	\$1,068
2030	\$165	\$0	\$133	\$0	\$250	\$137	\$686	\$50	\$0	\$13	\$63	\$1	\$215	\$22	\$1	\$1	\$16	\$64	\$319	\$1,068
2031	\$165	\$0	\$133	\$0	\$250	\$137	\$686	\$50	\$0	\$13	\$63	\$1	\$215	\$22	\$1	\$1	\$16	\$64	\$319	\$1,068
2032	\$165	\$0	\$133	\$0	\$250	\$137	\$686	\$50	\$0	\$13	\$63	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$1,045
2033	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2034	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2035	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2036	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2037	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2038	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2039	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2040	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2041	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2042	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2043	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2044	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2045	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2046	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2047	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$6	\$32	\$0	\$215	\$22	\$0	\$0	\$0	\$59	\$296	\$328
2048	\$0	\$0	\$133	\$0	\$112	\$61	\$306	\$75	\$1	\$19	\$95	\$1	\$215	\$22	\$0	\$0	\$0	\$60	\$298	\$698
2049	\$0	\$0	\$133	\$0	\$112	\$61	\$306	\$75	\$1	\$19	\$95	\$1	\$215	\$22	\$1	\$1	\$16	\$64	\$319	\$720
2050	\$0	\$0	\$133	\$0	\$112	\$61	\$306	\$75	\$1	\$19	\$95	\$1	\$215	\$22	\$1	\$1	\$16	\$64	\$319	\$720
2051	\$0	\$0	\$133	\$0	\$112	\$61	\$306	\$75	\$1	\$19	\$95	\$1	\$215	\$22	\$1	\$1	\$16	\$64	\$319	\$720
2052	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$2,805	\$2,166	\$2,793	\$3,493	\$9,460	\$5,179	\$25,896	\$4,325	\$38	\$1,091	\$5,454	\$29	\$7,740	\$792	\$14	\$23	\$401	\$2,250	\$11,248	\$42,598