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Witnesses: Michael L. De Marco
Adam H. Levin
Frank Thomas
Cynthia Fang
Tracy Dalu

**ERRATA TO REVISED
PREPARED DIRECT TESTIMONY
IN SUPPORT OF THE 2014 DECOMMISSIONING COST ESTIMATES
ON BEHALF OF
SAN DIEGO GAS & ELECTRIC COMPANY**

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

June 19, 2015

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REVISED
PREPARED DIRECT TESTIMONY
ON BEHALF OF SDG&E

I. INTRODUCTION (M. De Marco)

As the 20% minority owner, San Diego Gas & Electric Company (“SDG&E”) is contractually obligated to pay its 20% ownership share of decommissioning expenses for the San Onofre Nuclear Generation Station (“SONGS”). This testimony supports the 2014 Decommissioning Cost Estimate¹ (“DCE”) completed by the EnergySolutions and Chicago Bridge & Iron Company (“ES/CBI”) consortium on behalf of Southern California Edison Company (“SCE”), provided as Appendix A-1 of SCE-01, as well as SDG&E’s 20% share of the DCE. The testimonies provided below provide additional support for the DCE and many of its material assumptions and particular estimates.

SDG&E will also incur SDG&E-only costs associated with decommissioning. These costs (100%) are expected to be incurred and paid for only by SDG&E. SDG&E’s internal decommissioning costs that it expects to incur and to fund on its own behalf (100%) are provided in Attachment A of SDGE-01. I discuss these costs in my testimony below in Section VIII.

Lastly, testimony from Ms. Tracy Dalu, Section IX, describes SDG&E’s Trust disbursement advice letter, and describes the proposed process for and content of future SDG&E Trust disbursement advice letters.

II. BACKGROUND ON SONGS DECOMMISSIONING COST ESTIMATES (M. De Marco)

The previous decommissioning cost estimates for SONGS Units 2 & 3, completed by ABZ, were predicated on the assumption that SONGS would continue to operate to the end of its Nuclear Regulatory Commission (“NRC”) license in 2022 and thus were intended primarily to determine the appropriate amount of ratepayer contributions needed for the decommissioning trusts. As such, the previous estimates contained general approximations of the major deliverables required for decommissioning. In addition, the previous decommissioning cost estimates did not include SDG&E-specific costs, which were recoverable through general rates, or were not yet contemplated by SDG&E and the other SONGS co-owners.

¹ EnergySolutions Document No. 164001-DCE-001, 2014 Decommissioning Cost Analysis of the San Onofre Nuclear Generating Station (“SONGS”) Units 2 & 3 (“DCE”).

1 The decommissioning period for SONGS began in June 2013 with SCE's announcement
2 that SONGS had ceased operations. The DCE was produced by ES/CBI at the request of SCE to
3 estimate the decommissioning costs for SONGS 2 & 3, based upon SCE's June 7, 2013
4 announcement that Units 2 & 3 had ceased operations. The DCE will not only be used to
5 calculate ratepayer contributions to the trust, but it will also be used as the basis for reviewing
6 decommissioning trust fund requests and uses, and serve as a guiding executable
7 decommissioning plan and schedule. It also reflects lessons learned early on by SDG&E during
8 the decommissioning process about decommissioning costs and timing. As such, this DCE
9 provides a more detailed review of the decommissioning activities than prior SONGS
10 decommissioning cost estimates and it also includes SDG&E-only costs for the first time.

11 **III. SDG&E'S SHARE OF THE DECOMMISSION COST ESTIMATE (De Marco)**

12 SDG&E's total costs for decommissioning SONGS is \$898.798 million (2014\$). This
13 estimate is comprised of SDG&E's 20% share of the DCE, which is \$882.249 million (2014\$),
14 and SDG&E-only costs (100%) of \$16.549 million (2014\$).² I discuss the SDG&E-only costs in
15 more detail below in Section VIII.

16 **IV. SDG&E OVERVIEW OF THE DCE DRAFTING AND DEVELOPMENT** 17 **PROCESS (M. De Marco)**

18 Due to the unanticipated early retirement of the facility, the SONGS co-owners were
19 unable to complete the initial decommissioning planning activities that normally would have
20 been completed prior to the scheduled shutdown of the facility. As a result, the development of a
21 more detailed site-specific cost estimate for submittal to the NRC and the Commission did not
22 occur prior to SONGS' shutdown.

23 The prior ABZ cost estimates provided an assessment of the overall SONGS
24 decommissioning costs in order to determine the decommissioning trust balances needed for
25 decommissioning. Once the retirement of SONGS was announced, a more detailed site-specific
26 cost estimate was pursued. The resulting DCE, completed by ES/CBI, provides a detailed site-
27 specific cost estimate and includes an executable decommissioning plan, work breakdown
28 structure, and schedule. The evaluation of decommissioning work plans and possible sequencing
29 of work activities were considered during the development of the ES/CBI DCE to derive a
30 realistic scope of work that was predicated on safety, efficiency, and cost effectiveness.

² See Attachment A, SDG&E-Only Decommissioning Costs (100%).

1 As SDG&E's Nuclear Team Leader, I am stationed at SONGS and am responsible for the
2 oversight and review of SCE's activities related to SONGS planning and work efforts. I also
3 function as the liaison between SCE and SDG&E for information requests and SDG&E
4 employee access to the site. I have consistently interacted with SCE personnel at SONGS
5 throughout the development of the DCE, including participating on behalf of SDG&E in the
6 evaluation and selection of the DCE vendors and the review of the preliminary DCE drafts. It is
7 my belief that the DCE reflects a realistic estimate to cost effectively and safely decommission
8 SONGS and comply with existing regulations.

9 SDG&E sought the advice of an independent decommissioning expert to assist in its
10 oversight and review of the DCE (see testimony of Mr. Adam Levin provided in Sections V.b.
11 and VI below). I am the point of contact for Mr. Levin to make sure Mr. Levin's comments and
12 concerns are conveyed to SCE personnel during weekly SONGS co-owner meetings and other
13 collaborative discussions. SDG&E relied upon my knowledge of the site, coupled with Mr.
14 Levin's knowledge of nuclear decommissioning, to oversee the DCE development.

15 **V. SDG&E HAS REVIEWED THE DCE AND FOUND IT TO BE REASONABLE AS**
16 **A DECOMMISSIONING PLAN AND GUIDING SCHEDULE**

17 **a. SDG&E Finds The DCE to be a Reasonable Estimated Schedule (De Marco)**

18 Before commencing decommissioning, owners of nuclear generation facilities must
19 decide when to start, and how to go about decommissioning and demolition. The NRC has three
20 scenarios that a retiring nuclear plant can pursue: DECON, SAFSTOR, and ENTOMB. DECON
21 results in promptly pursuing decontamination, dismantlement and return of the site for beneficial
22 use. SAFSTOR essentially puts a plant in stasis (or safe storage mode) for up to 60 years prior to
23 decontamination and dismantlement, with the expectation that the site ultimately becomes
24 available for other beneficial uses. ENTOMB is a hardened safe storage prior to
25 decontamination and dismantlement, but the site is not released for other uses (i.e., nuclear fuel
26 remains enshrined on site).

27 As reflected in the DCE, SCE, as Operating Agent, is pursuing DECON at SONGS with
28 dry fuel storage until the Department of Energy ("DOE") can remove the spent fuel. SDG&E
29 finds this approach to be appropriate and cost efficient. SDG&E has encouraged SCE to
30 promptly transfer spent fuel from the pools to dry cask storage in a safe manner and promptly
31 commence the decontamination and dismantlement of the plant. In my review, the DCE

1 accurately reflects SCE's proposed course of action. Therefore, I believe that the DCE is a
2 reasonable estimated schedule of decommissioning activities at SONGS.

3 **b. SDG&E Expert's Review of DCE (A. Levin)**

4 SDG&E has retained me as one of its decommissioning experts. Part of my role was to
5 review and provide my expert opinion on the DCE. I did not participate in the effort to produce
6 this Study; however, I did provide my feedback to SCE via SDG&E, throughout the drafting
7 process.

8 During my 37-year career in the commercial nuclear industry, I have participated in 11
9 major decommissioning projects.³ I have had the opportunity to develop and review
10 decommissioning cost estimates for more than 40 commercial nuclear units. In my opinion, the
11 DCE provides a realistic estimate of the costs expected to be incurred while decommissioning
12 SONGS Units 2 & 3. The DCE uses industry-accepted methods for cost estimating, appropriate
13 site-specific inputs, and reasonable, conservative assumptions regarding the disposition of
14 radiological, hazardous and municipal waste from the site. Additionally, the DCE generally
15 conforms to the guidance for preparing decommissioning cost estimates provided by the NRC.⁴

16 In DECON,⁵ the major decommissioning activities at SONGS will begin with (1) the
17 completion of the transfer of spent nuclear fuel into dry cask storage, and (2) major equipment
18 removal (e.g., the reactor vessel, reactor internals, steam generators, primary loop piping and
19 valves). Radioactively-contaminated components will be disposed of at the NRC-licensed low-
20 level radioactive waste ("LLRW") disposal facilities at Envirocare of Utah ("Envirocare") and
21 Waste Control Specialists ("WCS") in Texas. Other non-hazardous, non-radioactive waste
22 generated during decommissioning will be disposed of at a municipal landfill. All of these
23 activities and disposal plans are reasonably reflected in the DCE.

³ 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 San Onofre Nuclear Generating Station.

⁴ 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>.

⁵ 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.

1 Once the site has been cleared of LLRW and municipal waste, SCE as the NRC licensee
2 will (1) submit a license termination plan to NRC for its approval, and (2) the site will be
3 restored to a state acceptable to the State of California and various federal agencies. Spent
4 nuclear fuel will remain on site at the SONGS Independent Spent Fuel Storage Installation
5 (“ISFSI”) until accepted and removed by the DOE for storage off site or disposal. These events
6 are also appropriately reflected in the DCE.

7 **VI. CRITICAL DECOMMISSIONING ASSUMPTIONS IN THE DCE ARE**
8 **REASONABLE (A. Levin)**

9 Several critical assumptions contained in the DCE have noteworthy impact upon the
10 estimated decommissioning costs, include:

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

18 **a. Assumptions Regarding Site Security And Emergency Response Requirements**

19 Current and anticipated NRC site security and emergency response requirements for
20 SONGS are not expected to significantly impact estimated project cost. Kewaunee, Crystal
21 River 3, SONGS and Vermont Yankee have recently requested exemptions from the NRC to
22 reduce operating level site security and emergency response organizations, to reflect the
23 decommissioning status of the sites. The NRC is preparing interim staff guidance to address
24 these matters.⁶

25 In her letter to Senator Feinstein regarding site security and emergency response
26 requirements, NRC Commission Chairman Allison Macfarlane noted that:

27 The 2009 security regulations established and updated security requirements for
28 power reactors, including the spent fuel pool, to be consistent with those
29 requirements imposed by Commission Orders after the terrorist attacks of
30 September 11, 2001. These security requirements remain applicable during

⁶ Letter from NRC Commission Chairman Allison Macfarlane to Senator Dianne Feinstein, June 30, 2014. <http://www.nrc.gov/reading-rm/doc-collections/congress-docs/correspondence/2014/feinstein-06-30-2014.pdf>.

1 decommissioning activities unless a licensee is granted an exemption from a
2 particular requirement.⁷

3 On August 7, 2014, the NRC Commission ruled on Kewaunee's exemption request,
4 partially approving and partially disapproving the exemption. Chairman Macfarlane noted that
5 dry cask storage did not present a challenge to Kewaunee's request to relax emergency planning
6 requirements:

7 First, fuel that is stored in casks is typically much older than 1-2 years post-
8 discharge and there is not a possibility of fuel heating up to zirconium fire
9 temperatures if a cask loses its helium coolant. Second, the very nature of dry
10 casks results in the spent fuel being segregated and compartmentalized into
11 smaller volumes. A severe accident or event would be less likely to propagate to
12 the entire population of fuel being stored externally in casks.⁸

13 However, Chairman Macfarlane maintained that until Kewaunee could demonstrate spent
14 fuel in the pool had cooled sufficiently such that a zirconium fire was no longer credible in a
15 pool drain down event, some offsite response should be maintained.⁹

16 Chairman Macfarlane concluded:

17 Based on my review of this request, in a general sense, I agree that EP
18 requirements that are specifically designed for rapidly developing operating
19 reactor accidents can be exempted, and I support those exemptions. There is a
20 significant amount of time to react to events involving colder fuel in the pool.
21 However, I find that there is not an adequate basis to exempt the licensee from all
22 of the offsite radiological emergency preparedness requirements. Specifically, I
23 disapprove elements of the exemption request that remove Kewaunee's
24 requirements for emergency classification and offsite dose projection capabilities,
25 which appear to have defense-in-depth value in the event of an offsite release.
26 The staff should maintain these elements in its pending review of Kewaunee's
27 license request to change its EP plan.¹⁰

28
29 On October 31, 2014, NRC issued the amendment granting Kewaunee's request for
30 changes to its emergency response plan and emergency action levels. This amendment is based

⁷ *Id.*

⁸ NRC ADAMS Ascension Number ML14220A046, Commission Voting Record, Decision Item SECY-14-0066, "Request by Dominion Energy Kewaunee, Inc. for Exemptions from Certain Emergency Planning Requirements", August 7, 2014.

⁹ *Id.*

¹⁰ *Id.*

1 upon NRC staff's analysis of Kewaunee's request and the August 7, 2014 Commission Voting
2 Record.¹¹

3 It is my opinion that NRC staff will request that Crystal River 3, Vermont Yankee, and
4 SONGS maintain some offsite emergency classification and offsite dose projection capabilities
5 until spent nuclear fuel is removed from the site. It is also my opinion that maintaining
6 emergency classification and offsite dose projection capabilities will not add significant cost to
7 SONGS decommissioning, when properly staffed.

8 As of November 19, 2014, only Kewaunee has received a response from NRC staff on its
9 site security exemption request. NRC staff denied Kewaunee's security exemption request.¹²
10 Kewaunee intends to modify its amendment and resubmit its request to the NRC staff. Based
11 upon my knowledge of their initial request and the modifications Kewaunee intends to make
12 upon resubmission, I expect NRC will subsequently accept the revised amendment request.

13 Therefore, I find that the cost provided in the DCE for NRC site security and emergency
14 response requirements at SONGS to be reasonable until the time all spent fuel has been moved
15 into dry storage.

16 **b. Assumptions Regarding Low-Level Radioactive Waste Disposal**

17 There are no existing concerns with the availability of LLRW disposal or municipal
18 disposal facilities to accept SONGS waste for disposal. SONGS will continue to send Class A
19 LLRW to Envirocare during decommissioning, as it did during operations. SONGS is planning
20 upon sending its more radioactive Class B and Class C LLRW to WCS in Andrews, Texas. The
21 WCS facility was opened to these classes of LLRW from out-of-state generators in 2011. The
22 LLRW disposal facilities at Envirocare and WCS have sufficient capacity to accept all LLRW
23 generated during the SONGS decommissioning.

24 SONGS has entered into long-term contractual agreements with Envirocare and WCS
25 ensuring access to these NRC-licensed LLRW disposal facilities. These contracts provide surety
26 of pricing through favorable base rates and annual price adjustments. These disposal rates and
27 annual price adjustments have been properly reflected in the DCE.

¹¹ Kewaunee Power Station – Issuance of Amendment for Changes to the Emergency Plan and
Emergency Action Levels (TAC No. MF3411), October 31, 2014.

¹² Kewaunee Power Station – Denial of Request for Exemption from Certain Requirements of 10 CFR
73.55 (TAC No. MF3012), October 30, 2014.

1 As a result, I find that the costs provided in the DCE for nuclear and municipal waste
2 disposal to be reasonable.

3 **c. Assumptions Regarding SONGS Site Release**

4 Previous commercial nuclear plant decommissioning projects have been impacted by site
5 release standards imposed by State and Local officials, which are above and beyond the site
6 release standards required by the NRC.

7 SONGS resides on easements and/or land leased from the U.S. Department of the Navy.
8 The lease agreement (Mesa side) currently requires SONGS to remove all of the buildings unless
9 the U.S. Navy requests otherwise.¹³ The SONGS Plant Site Easement (the Plant side) currently
10 requires SONGS to return the land to its original condition at the conclusion of
11 decommissioning.¹⁴ Additionally, SONGS maintains a lease with State of California State Lands
12 Commission (“CSLC”), providing access from the Plant site into the Pacific Ocean for SONGS’
13 cooling water supply and discharge conduits.¹⁵ This lease currently requires SONGS to return
14 this property to its original state.

15 These added site restoration requirements significantly impact decommissioning costs.
16 The U.S. Navy lease requirements for the Plant side will require the SONGS participants to
17 excavate complete building structures, including foundations, and the CSLC lease will require
18 the removal of cooling water supply and discharge lines from the Pacific Ocean seabed. The
19 DCE assumes this large volume of non-hazardous waste (over 60 million cubic feet) will have to
20 be disposed of through scrap metal recyclers or in an out-of-state municipal landfill, since its
21 disposal at an in-state municipal landfill is precluded by a California Executive Order.¹⁶

22 To the extent they are understood today, these requirements have been captured in the
23 DCE and their impacting costs reflected appropriately.

24 **d. Assumptions Regarding DOE Pickup at SONGS**

¹³ “SONGS Shutdown and Decommissioning”, CA Senate Energy, Utilities and Communications
Committee, August 13, 2013. <http://seuc.senate.ca.gov/sites/seuc.senate.ca.gov/files/08-13-13Edison.pdf>.

¹⁴ *Id.*

¹⁵ San Onofre Nuclear Generating Station Units 2 & 3 Post-Shutdown Decommissioning Activities Report
at 13. <http://www.songscommunity.com/docs/PSDARRevisionAugust2014.pdf>.

¹⁶ Executive Department State of California, Executive Order D-62-02 by the Governor of the State of
California Gray Davis, September 30, 2002. <http://www.cdph.ca.gov/certlic/radquip/Documents/RHB-HT-EO-D-62-02.htm>.

1 Based on information known today, the dates assumed in the DCE concerning the DOE
2 pickup of spent fuel are reasonable.

3 The start date of DOE performance and the rate at which the DOE will remove spent
4 nuclear fuel have been the subject of much public speculation. The DCE assumes the DOE will
5 begin removing fuel in 2024, based upon a previously DOE-announced commencement of
6 geologic repository operations in 2020 – including a four-year delay from DOE’s
7 announcement.¹⁷ Since the DOE’s 2020 starting-date announcement, much has transpired,
8 including the termination of the siting process at Yucca Mountain, and the commissioning and
9 completion of a federal Administration study on the future of managing spent nuclear fuel and
10 high-level radioactive waste.¹⁸

11 The Blue Ribbon Commission (“BRC”) report recommended – among other matters –
12 that a program to site consolidated interim storage facilities (“ISF”) with the goal of first
13 accepting spent nuclear fuel from shutdown plants, be pursued (“the Pilot ISF”).^{19,20} This ISF
14 approach would have begun removing spent fuel from shutdown plants followed by others in
15 industry by 2021. The DOE-assumed start date for Pilot ISF operations was predicated on work
16 beginning on the Pilot ISF by January 2014. The Pilot ISF program has yet to be launched –
17 Congress has not allocated the funding required, and federal legislation needed in order for the
18 DOE to move forward has yet to be enacted upon. However, making a reasonable assumption
19 that federal legislation can be enacted in 2017, after the 2016 Presidential election cycle, the
20 DOE Pilot ISF program would be delayed by only three years, from 2021 to 2024. The DCE
21 assumption that DOE pickups across industry will commence in 2024, based on DOE’s
22 published intentions and the timely enactment of federal legislation, are reasonable.

23 Based upon my review of the study, my knowledge of and involvement in previous
24 industry decommissioning projects, and my familiarity with the history of spent nuclear fuel

¹⁷ Southern California Edison, “Testimony on the Nuclear Decommissioning of SONGS 2 & 3 and Palo Verde Before the Public Utilities Commission of the State of California,” December 21, 2012. https://www.sdge.com/sites/default/files/regulatory/NDCTP%20-%20SCE-2%20Testimony_0.pdf.

¹⁸ “Blue Ribbon Commission on America’s Nuclear Future“, Report to the Secretary of Energy, January 2012. http://www.energy.gov/sites/prod/files/2013/04/f0/brc_finalreport_jan2012.pdf.

¹⁹ *Id.*

²⁰ “Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste”, U.S. Department of Energy, January 2013. <http://www.energy.gov/sites/prod/files/Strategy%20for%20the%20Management%20and%20Disposal%20of%20Used%20Nuclear%20Fuel%20and%20High%20Level%20Radioactive%20Waste.pdf>.

1 management and pending programs to do the same, I find the DCE to be a reasonable estimate of
2 the anticipated costs to decommission SONGS.

3 **VII. USE OF THE RETAIL RATE TO ESTIMATE DECOMMISSIONING POWER**
4 **COSTS IS REASONABLE**
5 **(F. Thomas)**

6 The DCE uses SDG&E's retail rate to estimate decommissioning power costs to the
7 SONGS facility.²¹ As described below in more detail, use of the SDG&E retail rate and the
8 application of SDG&E's tariffs by the DCE is reasonable to estimate "Energy" costs during
9 decommissioning.

10 Furthermore, the DCE's estimate is a reflection of reality. On October 6, 2014, SDG&E
11 informed SCE that due to the change in status of SONGS from operational to decommissioning,
12 SDG&E was required to apply its Commission-approved tariffs and would begin billing the
13 decommissioning load at the SONGS site under retail service. Thus, the DCE uses the correct
14 information to accurately estimate this particular cost.

15 **a. Power at SONGS During Operations (F. Thomas)**

16 When it was operating, SONGS received station power and light via two separate and
17 distinct means – first, power was stepped down from the generator leads (Units 2 & 3) and
18 second, power through SDG&E's 69 kV Japanese Mesa where it is stepped down to 12 kV.
19 When SONGS was operating, the bulk of the station power and light for the plant west of I-5
20 came from either Unit 2 and/or Unit 3.²² Certain loads west of I-5 and the load for the SONGS
21 Mesa east of I-5 were served via two 12 kV lines acquired by SCE per the SONGS Auxiliary
22 Power Exchange Agreement ("Agreement") signed in 1986.

23 As part of the Agreement, SDG&E scheduled and provided hourly amounts of energy to
24 meet load on these lines in exchange for SONGS providing SDG&E offsetting energy grossed up
25 for line losses, use of transmission, and scheduling efforts. Per Section 4.4 of the Agreement:
26

²¹ See Appendix D to the DCE (Appendix A-1 to SCE-01) for "Energy" estimates.

²² Even when SONGS was operating but one of the units was off-line for repair or refueling, the other unit would be operating and therefore supplying station power and light.

1 *“...service shall be provided under this Agreement only for the sole purpose of*
2 *providing electric service required for the operation, maintenance or capital*
3 *improvement of SONGS.”*
4

5 The Agreement is akin to a process commonly used by merchant generators, which
6 allows the generator to net monthly station power and light with energy produced at the station,
7 thereby avoiding Commercial & Industrial (“C&I”) tariff rates.

8 After Units 2 & 3 shut down in January 2012, the SONGS facility continued to take
9 service, except now instead of power coming from Unit 2 or 3, it had to come into SONGS from
10 the high voltage transmission system, stepped down via each of the Unit’s transformers. For
11 this load, SCE scheduled electricity and subsequently charged SDG&E at the SONGS default
12 load aggregation point (“DLAP”) wholesale price for its 20% co-ownership share.

13 **b. Power at SONGS During Decommissioning (F. Thomas)**

14 After June 7, 2013, when SCE announced that Units 2 & 3 had ceased operations and the
15 decommissioning period began, the SONGS facility continued to take service as it had during the
16 prior year. However, from June 7, 2013 onward, SONGS will never again produce electricity
17 nor operate on a commercial basis. Accordingly, SDG&E believes that because SONGS is no
18 longer operational, the Agreement no longer applies. Instead, SDG&E’s AL-TOU tariff is the
19 appropriate tariffed rate. This is the same rate charged to the South Bay Power Plant when it was
20 no longer in service and was undergoing decommissioning. This rate is reasonably reflected in
21 the DCE.

22 **c. Use of Retail Service to SONGS During Decommissioning is Fair to Ratepayers**
23 **(C. Fang)**

24 The application of retail rates for retail service provided by SDG&E for the
25 decommissioning cost at SONGS is reasonable not only because it appropriately applies
26 SDG&E’s tariffs, but it also ensures the fair treatment of SDG&E ratepayers. Continuing to use
27 wholesale rates for retail service would not only violate SDG&E’s Commission-approved tariffs,
28 but it would also unfairly benefit SCE’s ratepayers at the expense of SDG&E’s ratepayers. The
29 failure to apply retail rates for retail service for decommissioning activities at SONGS would
30 allow SCE ratepayers to avoid paying their fair share of decommissioning costs, which in turn,
31 would unfairly burden SDG&E ratepayers.

32 SDG&E’s retail service tariffs include the recovery of:

- 1 (1) **Transmission** – Federal Energy Regulatory Commission (“FERC”) – jurisdictional
2 charges for costs to deliver high-voltage electricity from power plants to distribution
3 system,²³
- 4 (2) **Distribution** – charges for costs to distribute electricity to customer premises and
5 recovery of miscellaneous programs such as Demand Response, California Solar
6 Initiative, Solar Generation Incentive Program,
- 7 (3) **Public Purpose Program** (“PPP”) Charges – charges to pay for state-mandated
8 programs such as low-income and energy efficiency programs,
- 9 (4) **Nuclear Decommissioning** (“ND”) Charge – charges to pay for the retirement of
10 nuclear power plants,
- 11 (5) **Ongoing Competition Transition Charges** (“CTC”) – charges to pay the above
12 market costs for long-term power contracts,
- 13 (6) **Local Generation Charge** (“LGC”) – charges associated with generation power that
14 the CPUC has determined should be recovered from all benefiting customers,
- 15 (7) **Reliability Services** (“RS”) – FERC-jurisdictional charges for services provided by
16 generating facilities to maintain system reliability,
- 17 (8) **Department of Water Resource Bond Charge** (“DWR-BC”) - charges to pay bonds
18 issued by DWR to cover the cost of purchasing power during the 2000-2001 energy
19 crisis,
- 20 (9) **Commodity** – charges for electricity which includes charges for energy provided by
21 SDG&E, and
- 22 (10) **Total Rate Adjustment Component** (“TRAC”) – charges/credits applied to
23 maintain the residential tiered rate structure.²⁴

24 Prior to October 6, 2014, the load at the SONGS site was charged wholesale prices, more
25 specifically, the DLAP price. The DLAP price reflects short-term wholesale energy prices.
26 When the SONGS units were operational generating facilities, station service to the facility was

²³ Includes Transmission Access Charge Balancing Account Adjustment (“TACBAA”) and Transmission Revenue Balancing Account Adjustment (“TRBAA”).

²⁴ Previously governed by the capping required pursuant to Assembly Bill (“AB”) 1X and Senate Bill (“SB”) 695 and now subject to Decision (“D.”) 14-06-029, which was approved by the CPUC on June 12, 2014, implementing the Settlement Agreement for Phase 2 Interim Residential Rate Design Changes for SDG&E in Rulemaking (“R.”) 12-06-013.

1 provided on a wholesale basis during times when onsite generation did not sufficiently cover
2 station power requirements.

3 With the shutdown of the SONGS generation operations and the commencement of
4 decommissioning activities, the facility no longer produces electricity. Therefore, now the
5 SONGS site is situated similarly to any other commercial/industrial facility located within
6 SDG&E's service territory and receiving service from SDG&E. Service under SDG&E's
7 authorized retail service tariffs ensure customers pay for the services they receive. In addition to
8 commodity services, these services include, and are not limited to, distribution and transmission
9 services as well as obligations related to state and Commission programs. Failure to charge the
10 decommissioning load at the SONGS site the Commission-approved tariff for retail service
11 would result in SDG&E ratepayers bearing the full burden of the difference in cost recovery
12 under the retail rate relative to the prior wholesale treatment under the DLAP price, which
13 recovers only a fraction of the Commodity costs.

14 **VIII. ESTIMATE OF SDG&E-ONLY COSTS IS REASONABLE (De Marco)**

15 In addition to SDG&E's 20% share of the costs outlined in the DCE, SDG&E anticipates
16 incurring SDG&E-only (100%) Labor and Other/Non-Labor costs throughout the
17 decommissioning process. The estimate of SDG&E-only costs is provided as Attachment A to
18 SDGE-01.²⁵ As reflected in Table 1, SDG&E estimates that its total internal costs over the
19 decommissioning period to be \$16.549 million (2014\$).

20

²⁵ SDG&E-only costs have been updated since the submittal of the DCE, and are summarized in Table 1 and detailed in Attachment A.

1

Table 1			
SDG&E SONGS DECOMMISSIONING COSTS (1,000's, 2014\$)			
Total Units 2 & 3	SDG&E Labor	Other/ Non-Labor	Total Costs
License Termination	\$4,713	\$2,425	\$7,138
Spent Fuel Management	\$3,579	\$1,906	\$5,485
Site Restoration	\$2,329	\$1,597	\$3,926
Total	\$10,621	\$5,927	\$16,549

2 SDG&E has historically provided and prior Commissions have ordered fiscal oversight
3 of SCE’s activities at SONGS when it was generating electricity. As SONGS begins
4 decommissioning, SDG&E continues to incur reasonable and prudently incurred costs related to
5 its SONGS oversight through the decommissioning process. SDG&E also expects to incur costs
6 associated with outside decommissioning experts and counsel. Before the current DCE, SDG&E
7 had not previously estimated its internal costs associated with decommissioning for the
8 Commission.

9 While an estimate of SDG&E-only costs was provided as part of the DCE submission to
10 the NRC by SCE on behalf of the SONGS co-owners on September 23, 2014,²⁶ the costs
11 provided then differ from the costs currently before the Commission in Table 1. The difference
12 between the estimate of SDG&E-only costs submitted to the NRC and the estimate of SDG&E-
13 only costs provided herein are based on SDG&E’s learnings and actual costs incurred during the
14 first 18 months of decommissioning.²⁷ I discuss these learnings below. I anticipate that this
15 initial estimate will be refined over the years as SDG&E proceeds through the decommissioning
16 process and learns more about its internal needs and incurs actual costs.

17 **a. Allocations of Estimated SDG&E-Only Costs Between Decommissioning**
18 **Categories**

19 As summarized in Table 1 and detailed in Attachment A, both the Labor and Other/Non-
20 Labor costs have been allocated to the three traditional NRC categories of License Termination,
21 Spent Fuel Management, and Site Restoration. These categories are designated by federal

²⁶ Provided to the NRC as Appendix F to the DCE (Appendix A-1 to SCE-01).
²⁷ The difference between the SDG&E-only cost estimate provided to the NRC and this cost estimate is approximately \$6.22 million.

1 regulations for radiological decontamination (identified in Table 1 as License Termination) and
2 spent fuel storage (identified in Table 1 as Spent Fuel Management) and by the terms of the
3 easement/lease contracts specific to SONGS (identified in Table 1 as Site Restoration). To make
4 this allocation, I determined the percentage of the DCE's costs SCE allocated to each category
5 and then multiplied the SDG&E-only costs by that same percentage in order to approximate the
6 cost incurred by SDG&E in each NRC category. This cost allocation approach is reasonable
7 because most of SDG&E's costs are oversight-related, and those costs will be incurred
8 addressing the projects in each NRC category.

9 **a. SDG&E Labor**

10 The first category in Table 1, "SDG&E Labor" includes SDG&E staff that provides
11 oversight of SONGS decommissioning costs and activities. SDG&E's internal staffing levels are
12 expected to coincide with decommissioning activities intensity levels, so where the three (3) full-
13 time equivalents ("FTEs") are reduced after 2016 to two (2) FTEs, then to one (1) FTE after
14 2025, and eventually to zero (0) FTEs after 2032. After 2032, invoicing and oversight activities
15 are anticipated to be minor during this period as ISFSI management efforts are relatively minor
16 and yearly site costs are relatively low. Once ISFSI decommissioning is initiated on or around
17 2049, SDG&E plans to identify one (1) full-time equivalent through 2051 to provide greater
18 fiscal oversight during: 1) the removal of the ISFSI, railroad tracks, gunite slope protection,
19 access road, north parking lot and, 2) the subsequent backfill and compaction of excavation
20 conducted, concluding with 3) the final grading and re-vegetation of the site.

21 These costs are shown in Table 1 under the column heading of "SDG&E Labor" and are
22 apportioned into License Termination, Spent Fuel Management, and Site Restoration according
23 to the methodology I describe above.

24 **b. Other/Non-Labor**

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

29 SDG&E has retained an external decommissioning consultant, Mr. Adam Levin, who
30 possesses nuclear decommissioning industry experience, which SDG&E lacks. Mr. Levin's
31 qualifications are provided in the "Witness Qualification" section at the end of SDGE-01.

1 SDG&E intends to use Mr. Levin, or a subsequent outside consultant, to substantiate that SCE's
2 decommissioning activities and related costs are consistent with similar nuclear stations
3 undergoing decommissioning. The services of Mr. Levin, or a subsequent outside consultant,
4 will be utilized to a greater extent through 2016 and then taper off annually through 2025.

5 SDG&E has also retained legal counsel with expertise in nuclear decommissioning issues
6 to represent SDG&E and provide legal advice on numerous decommissioning topics. The costs
7 associated with this area are difficult to anticipate or estimate, but SDG&E has endeavored to
8 include herein an estimate of outside legal costs based on anticipated future activities and use of
9 their legal counsel at levels similar to the outside consultant described above.

10 Finally, SDG&E incurs direct costs related specifically to its oversight activities at
11 SONGS. These cost projections are based upon SDG&E's current expenses related to SONGS
12 oversight, which include travel reimbursement, phone services, ongoing professional education²⁸
13 and wireless communication, which correspond to the SDG&E SONGS oversight personnel
14 FTEs.

15 **c. Contingency**

16 A contingency of 25% was added to the estimated SDG&E-only costs for future years to
17 help manage risk associated with currently unknown events as SDG&E proceeds through the
18 decommissioning process and learns more about its needs during decommissioning and incurs
19 actual costs. No contingency was applied to SDG&E-only costs that are already known in 2013
20 and 2014.

21 **d. Escalation**

22 The costs provided in Table 1 were escalated using the same escalation projections that
23 SCE utilized – the IHS Global Insight economic forecasting service. This service has been used
24 in past escalation projections by both Utilities.
25

²⁸ "Ongoing professional education" includes costs for SDG&E employees to attend decommissioning
summits, symposiums, and conferences, as well as costs associated with maintaining professional
certifications, such as CPA certification.

1 **IX. NDT TRUST DISBURSEMENT ADVICE LETTERS (T. Dalu)**

2 Once approved, the DCE will be used as the basis of SDG&E's future advice letters
3 requesting access to trust funds to pay for decommissioning costs incurred during 2014 and
4 beyond.

5 On April 1, 2015, as updated on April 13, 2015, SDG&E submitted SDG&E submitted
6 Tier 3 Advice Letter 2724-E, requesting Commission approval for interim disbursements from
7 the NDT's in connection with SONGS 2 & 3 decommissioning activities and costs incurred from
8 June 7, 2013 through December 31, 2013.²⁹ AL 2724-E was based on the best information
9 available to SDG&E at the time, which included the DCE and invoices from SCE. SDG&E's
10 request remains pending.

11 In the meantime, SDG&E has incurred significant decommissioning costs in 2014.
12 Through September 2014, SDG&E has incurred approximately \$21.6 million in
13 decommissioning costs for Units 2 & 3.³⁰ These costs have been paid with ratepayer funds.
14 SDG&E intends to file an advice letter seeking approval for interim disbursements for SONGS 2
15 & 3 decommissioning costs incurred in 2014, in accordance with the Commission's direction
16 provided to PG&E regarding trust disbursement advice letters in D.11-07-003.

17 **a. Proposed Contents of SDG&E Trust Disbursement Advice Letters**

18 Because SCE is the operating agent of SONGS and is currently serving as the
19 decommissioning agent, SDG&E is forced to rely heavily on SCE for accounting and cost
20 information. While recognizing SDG&E's limitation, I note that when SDG&E prepares its
21 advice letters requesting access to trust funds, SDG&E will strive to provide the following
22 information to the best of its ability in accordance with D.11-07-003:

- 23 • A summary SDG&E's previous funding requests and trust withdrawals,
24 summarized by major cost categories, correlated to the most recent Commission
25 adopted cost study, including a list of activities which trust funds were requested
26 in past Advice Letters and the amount previously requested for each activity;
- 27 • Actual "to date" expenditures for each activity;
- 28 • Total "to date" trust disbursements;

²⁹ AL 2724-E replaced AL 2579-E, which SDG&E withdrew.

³⁰ SDG&E filed an application, A.15-02-006, seeking a finding of reasonableness for 2014 SONGS O&M and "non-O&M" costs, in accordance with D.14-11-040 at Ordering Paragraph 4.

- Comparison of actual cash flow to its most recently approval estimated cash flow schedule; and
- Description of activities for which a variance of plus or minus ten percent (+/- 10%) between the decommissioning cost estimate and the actual costs occurs.

In addition to the costs provided by SCE, SDG&E will also provide similar information about SDG&E-only costs incurred in the reported period. SDG&E internal costs are tracked using specifically identified decommissioning work orders.

SDG&E's reporting capabilities for billed decommissioning costs presented in all future advice letters will rely heavily on cost summary information provided by SCE. Due to the delay in receiving cost information from SCE, SDG&E requests 60 days from the time SCE provides their cost reports to review, compile and submit any required SDG&E cost reports or advice letters for the reporting period.

b. Request for Forward-Looking Advice Letter Process

In addition to the advice letter seeking recovery of costs incurred in 2014, SDG&E is seeking the authority to access trust funds for forward-looking decommissioning expenditures. Based on information provided by SCE and included in the approved decommissioning cost estimate, SDG&E will provide a list of work to be performed in each major cost category during the future period to be covered by that advice letter. This will include the estimated disbursement amounts required to cover the cost of SDG&E's 20% share and SDG&E-only costs that are expected during the future period. It will also include an estimated amount to be spent for each activity during the period, a correlation of the activities and costs to the most recent cost study, and an explanation for any differences (amount and timing) from the most recent cost study estimate.

Under this process, the Commission will continue to perform a backwards-looking reasonableness reviews in the NDCTP for the costs of decommissioning projects that were completed during the previous three years, or alternatively, if the CPUC adopts the annual reasonableness review process outlined in SCE-01, in an annual proceeding.

If SDG&E's access to trust funds for forward-looking decommissioning expenditures is approved, SDG&E would initiate new processes to allow quick and accurate payments directly from the Trusts. Upon receiving the monthly SCE invoice (or incurring a SDG&E-only cost),

1 SDGE's Generation Accounting Group would prepare a "Withdrawal Certificate", which
2 requires the approval signature of authorized representatives designated by SDG&E NDT
3 Committee. Upon approval of the Withdrawal Certificate, the Sempra Pension and Trust
4 Investment team will contact the SDG&E NDT Trustee, currently BNY Mellon, and arrange for
5 the NDTs to sell assets from the NDTs. Once this is complete, the Trustee will wire cash to
6 reimburse SDG&E for the decommissioning payment made to Edison ("Trust Reimbursement").
7 Ideally, the Decommissioning Payment by SDG&E and Trust Reimbursement for the
8 Decommissioning Payment will happen on the same day.

WITNESS QUALIFICATIONS

Michael L. De Marco
Adam H. Levin
Cynthia Fang
Frank Thomas
Tracy M. Dalu

1 **WITNESS QUALIFICATIONS OF MICHAEL L. DE MARCO**

2 My name is Michael L. De Marco and my business address is 8315 Century Park Court,
3 San Diego, California 92123.

4 I have been employed by SDG&E since May 2007 as Team Leader of the Nuclear
5 Section in the Electric Project Development & Business Planning Department. My current
6 responsibilities include representing SDG&E's ownership interests at SONGS.

7 Prior to working for SDG&E, I worked at SCE. Previous positions relevant to my
8 testimony include: Nuclear Plant Operator, SONGS (1989 – 2001), Technical Specialist, Nuclear
9 Rate Regulation (2002 – 2003), Senior Financial Analyst, Energy Supply and Management
10 (2003 – 2006), and Senior Project Manager, Power Procurement (2006– 2007). I earned a
11 Bachelor of Science degree in Workforce Education from Southern Illinois University at
12 Carbondale in 1998 and a Master of Business Administration degree from the University of
13 California, Irvine in 2001. I am a registered Project Management Professional with the Project
14 Management Institute.

15 I am sponsoring Sections I, II, III, IV, V.a., VIII in SDGE-01 in support of the
16 Application.

17 This material was personally reviewed by me and I believe it to be correct that it is
18 factual in nature. Insofar as the material is in the nature of opinion or judgment, it represents my
19 best judgment.

20 I have previously testified before this Commission.
21

1 **WITNESS QUALIFICATIONS OF ADAM H. LEVIN**

2 My name is Adam H. Levin, and my business address is 7642 Trillium Boulevard,
3 Sarasota, Florida 34241. I have been retained by SDG&E to provide professional consulting
4 services as Decommissioning Advisor directly to SDG&E.

5 Since April 2013, I have been consulting to the nuclear energy industry, doing business
6 as AHL Consulting. I currently provide decommissioning and spent fuel management consulting
7 services to Duke Energy Florida Crystal River 3 (Decommissioning Project Management
8 Oversight Board), Entergy Nuclear Vermont Yankee (Third Party Decommissioning Advisor –
9 through Price Waterhouse Cooper), Dairyland Power Cooperative LaCrosse Boiling Water
10 Reactor (Decommissioning Advisor – through Techsource), as well as SDG&E
11 (Decommissioning Advisor). Additionally, I am providing consulting services to the
12 Department of Energy (DOE), Office of Nuclear Energy (DOE-NE), where I serve on several
13 steering committees overseeing the activities of the Nuclear Fuels Storage and Transportation
14 Project (NFST Project). The NFST Project is DOE’s program to implement recommendations
15 made by the Blue Ribbon Commission on America’s Nuclear Future, regarding the long-term
16 management of spent nuclear fuel in the United States.

17 Prior to April 2013, I spent 16 years at Exelon Generation in Illinois, the last seven years
18 as the Director of Spent Fuel and Decommissioning for Exelon’s fleet of 19 operating and four
19 retired nuclear units. Specifically, in this role I provided governance and oversight to Exelon’s
20 decommissioning activities and decommissioning cost estimating, and supported Exelon’s
21 corporate finance and tax organizations with trust fund asset management and financial
22 reporting.

23 I began my career in 1977 providing site characterization analyses for decommissioning
24 the Shippingport reactor, and have been involved in cost estimating and/or technical engineering
25 decommissioning activities at the vast majority of the commercial nuclear plant
26 decommissioning projects in the U.S. to date. I hold a master’s degree in nuclear engineering
27 and a bachelor’s degree in physics from Rensselaer Polytechnic Institute.

28 The purpose of my testimony in this proceeding is to sponsor testimony discussing
29 SDG&E’s review of the 2014 SONGS Units 2 & 3 DCE. I am sponsoring Sections V.b. and VI
30 in SDGE-01 in support of the Application.

1 This material was personally reviewed by me and I believe it to be correct that it is
2 factual in nature. Insofar as the material is in the nature of opinion or judgment, it represents my
3 best judgment.

4 I have not previously testified before this Commission.

1 **WITNESS QUALIFICATIONS OF CYNTHIA FANG**

2 My name is Cynthia S. Fang and my business address is 8330 Century Park Court, San
3 Diego, California 92123. I am the Electric Rates Manager in the Customer Pricing organization
4 of SDG&E. My primary responsibilities include the development of cost-of-service studies,
5 determination of revenue allocation and electric rate design methods, analysis of ratemaking
6 theories, and preparation of various regulatory filings. I began work at SDG&E in May 2006 as
7 a Regulatory Economic Advisor and have held positions of increasing responsibility in the
8 Electric Rate Design group. Prior to joining SDG&E, I was employed by the Minnesota
9 Department of Commerce, Energy Division, as a Public Utilities Rates Analyst from 2003
10 through May 2006.

11 In 1993, I graduated from the University of California at Berkeley with a Bachelor of
12 Science in Political Economics of Natural Resources. I also attended the University of
13 Minnesota where I completed all coursework required for a Ph.D. in Applied Economics.

14 I am sponsoring Section VII.c. in SDGE-01 in support of the Application. This material
15 was personally reviewed by me and I believe it to be correct that it is factual in nature. Insofar as
16 the material is in the nature of opinion or judgment, it represents my best judgment.

17 I have previously submitted testimony before the Federal Energy Regulatory Commission
18 and have submitted testimony and testified before the California Public Utilities Commission
19 regarding SDG&E’s electric rate design and other regulatory proceedings. In addition, I have
20 previously submitted testimony and testified before the Minnesota Public Utilities Commission
21 on numerous rate and policy issues applicable to the electric and natural gas utilities.

1 **WITNESS QUALIFICATIONS OF FRANK THOMAS**

2 My name is Frank Thomas. I am employed by SDG&E as Manager of Electric Project
3 Development and Business Planning. In this role I am responsible for the oversight and
4 management of SDG&E's participation in SONGS. I have been in this role for almost ten years.
5 I have a small staff responsible for monitoring day-to-day activities at the site and tracking
6 budgets and costs for SDG&E's 20% share of SONGS. I also have staff involved in organizing
7 SDG&E's transmission formulaic rate filings and developing utility owned solar via the CPUC
8 approved Solar Energy Project. I also assess utility owned generation opportunities and assist
9 the Electric and Gas Procurement Department by providing generation engineering information.
10 I was formerly Manager of Procurement Planning & Analysis within the Electric and Gas
11 Procurement Department. My responsibilities in this former role included overseeing a staff of
12 gas and electric analyst/planners that support the Procurement Department's traders and
13 schedulers, assisting Resource Planning by taking the lead with short-term planning, valuing
14 energy resources for acquisition, and supporting regulatory filings. I also took lead in
15 developing and carrying out SDG&E's 2003 Grid Reliability RFO. I was lead or a key
16 contributor for SDG&E in its role for the contract development and oversight of the Palomar,
17 Otay Mesa, and Miramar I generation projects and the subsequent Miramar II project several
18 years later.

19 I received my Bachelor's Degree in Hydrology and a Master's Degree in Civil
20 Engineering from the University of New Hampshire. I have received an MBA from the
21 New Hampshire College with a focus on finance. Much of my career has been as a consultant,
22 where I managed projects including the divestiture of utility assets and relicensing of FERC
23 regulated hydroelectric projects. I spent four years with Citizen's Utilities Company, where I
24 valued hydroelectric assets and life extending capital additions, represented the company in
25 deregulation activities, and analyzed its generation portfolio relative to stranded benefits and
26 costs. My work at Citizen's culminated with strategic planning for the acquisition and
27 divestiture of utility franchises. I joined SDG&E in October 2002.

28

1 I am sponsoring Sections VII, VII.a. and VII.b. in SDGE-01 in support of the
2 Application. This material was personally reviewed by me and I believe it to be correct that it is
3 factual in nature. Insofar as the material is in the nature of opinion or judgment, it represents my
4 best judgment.

5 I have previously testified before this Commission.
6

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

2 My name is Tracy Dalu and my business address is 8330 Century Park Court, San Diego,
3 California 92123. I am a CPA and the Generation Accounting Supervisor at SDG&E. My
4 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 since
9 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 of Science in Business Administration (Accounting
15 emphasis) and obtained my CPA license in 2001.

16 The purpose of my testimony in this proceeding is to discuss the advice letters for trust
17 disbursements. I am sponsoring Section IX in SDGE-01 in support of the Application. This
18 material was personally reviewed by me and I believe it to be correct that it is factual in nature.
19 Insofar as the material is in the nature of opinion or judgment, it represents my best judgment.

20 I have previously testified before this Commission.

ATTACHMENT A

**Estimate of SDG&E-ONLY (100%)
Decommissioning Costs for Units 2 & 3**

SDG&E **SONGS Detailed Annual Expenditures**
 Base Case: Prompt DECON, Time Reasonable Schedule, DOE Repository Opening 2024, Utility and DGC, Dry Storage
 (2014 Dollars in Thousands)

Account Totals

License Termination
 Spent Fuel Management
 Site Restoration

Unit 2			Unit 3			Total			Total
Labor	LLRW Burial	Other	Labor	LLRW Burial	Other	Labor	LLRW Burial	Other	Total
\$2,342	\$0	\$1,128	\$2,371	\$0	\$1,297	\$4,713	\$0	\$2,425	\$7,138
\$1,785	\$0	\$890	\$1,794	\$0	\$1,016	\$3,580	\$0	\$1,906	\$5,485
\$992	\$0	\$670	\$1,337	\$0	\$926	\$2,329	\$0	\$1,597	\$3,926
\$5,120	\$0	\$2,688	\$5,502	\$0	\$3,239	\$10,622	\$0	\$5,927	\$16,549

Unit 2 and 3 Total

Year	License Termination			Spent Fuel Management			Site Restoration			ISFSI D&D			Unit 2 and 3 Project Totals			
	Labor	LLRW Burial	Other	Labor	LLRW Burial	Other	Labor	LLRW Burial	Other	Labor	LLRW Burial	Other	License Term	Spent Fuel	Site Restoration	Total
2013	\$52	\$0	\$24	\$166	\$0	\$38	\$0	\$0	\$172	\$0	\$0	\$0	\$76	\$224	\$172	\$472
2014	\$474	\$0	\$323	\$243	\$0	\$201	\$2	\$0	\$219	\$0	\$0	\$0	\$798	\$444	\$221	\$1,463
2015	\$566	\$0	\$166	\$307	\$0	\$536	\$26	\$0	\$40	\$0	\$0	\$0	\$732	\$842	\$66	\$1,641
2016	\$333	\$0	\$245	\$511	\$0	\$138	\$55	\$0	\$107	\$0	\$0	\$0	\$578	\$649	\$161	\$1,389
2017	\$199	\$0	\$197	\$346	\$0	\$102	\$12	\$0	\$10	\$0	\$0	\$0	\$396	\$449	\$22	\$867
2018	\$196	\$0	\$186	\$361	\$0	\$111	\$0	\$0	\$0	\$0	\$0	\$0	\$382	\$472	\$0	\$854
2019	\$361	\$0	\$174	\$196	\$0	\$30	\$1	\$0	\$90	\$0	\$0	\$0	\$535	\$227	\$81	\$842
2020	\$523	\$0	\$267	\$29	\$0	\$3	\$6	\$0	\$1	\$0	\$0	\$0	\$790	\$32	\$7	\$829
2021	\$524	\$0	\$254	\$33	\$0	\$3	\$1	\$0	\$1	\$0	\$0	\$0	\$778	\$36	\$2	\$816
2022	\$505	\$0	\$218	\$51	\$0	\$5	\$2	\$0	\$22	\$0	\$0	\$0	\$723	\$56	\$24	\$804
2023	\$498	\$0	\$227	\$52	\$0	\$6	\$8	\$0	\$1	\$0	\$0	\$0	\$725	\$57	\$9	\$791
2024	\$330	\$0	\$60	\$73	\$0	\$4	\$155	\$0	\$157	\$0	\$0	\$0	\$390	\$77	\$312	\$779
2025	\$27	\$0	\$10	\$111	\$0	\$3	\$420	\$0	\$148	\$0	\$0	\$0	\$36	\$113	\$568	\$719
2026	\$18	\$0	\$14	\$74	\$0	\$4	\$192	\$0	\$69	\$0	\$0	\$0	\$32	\$78	\$260	\$371
2027	\$18	\$0	\$11	\$71	\$0	\$3	\$196	\$0	\$72	\$0	\$0	\$0	\$29	\$74	\$268	\$371
2028	\$17	\$0	\$10	\$67	\$0	\$3	\$201	\$0	\$73	\$0	\$0	\$0	\$27	\$70	\$274	\$371
2029	\$12	\$0	\$2	\$49	\$0	\$1	\$224	\$0	\$83	\$0	\$0	\$0	\$14	\$49	\$307	\$371
2030	\$13	\$0	\$2	\$52	\$0	\$1	\$220	\$0	\$83	\$0	\$0	\$0	\$15	\$53	\$303	\$371
2031	\$8	\$0	\$12	\$52	\$0	\$5	\$215	\$0	\$69	\$0	\$0	\$0	\$19	\$67	\$284	\$371
2032	\$40	\$0	\$23	\$245	\$0	\$41	\$0	\$0	\$0	\$0	\$0	\$0	\$62	\$266	\$0	\$348
2033	\$0	\$0	\$32	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2034	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2035	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2036	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2037	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2038	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2039	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2040	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2041	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2042	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2043	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2044	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2045	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2046	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2047	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2048	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$32
2049	\$0	\$0	\$0	\$285	\$0	\$118	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$402	\$0	\$402
2050	\$0	\$0	\$0	\$116	\$0	\$28	\$169	\$0	\$90	\$0	\$0	\$0	\$0	\$143	\$259	\$402
2051	\$0	\$0	\$0	\$60	\$0	\$18	\$225	\$0	\$99	\$0	\$0	\$0	\$0	\$78	\$324	\$402
2052	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$4,713	\$0	\$2,425	\$3,580	\$0	\$1,906	\$2,329	\$0	\$1,597	\$0	\$0	\$0	\$7,138	\$5,485	\$3,926	\$16,549

SDG&E 2014 DCE Testimony Change Log – June 2015

Exhibit	Witness	Page	Line	Revision Detail
SDG&E-01-R	M. De Marco	2	12	<i>Changed \$898.911 to \$898.798</i>
SDG&E-01-R	M. De Marco	2	14	<i>Changed \$16.662 to \$16.549</i>
SDG&E-01-R	M. De Marco	13	19	<i>Changed \$16.662 to \$16.549</i>
SDG&E-01-R	M. De Marco	13	Footnote	<i>Deleted footnote 25</i>
SDG&E-01-R	M. De Marco	14	Table 1	<i>Corrected figures in Table 1 “Other/Non-Labor” and “Total Costs” columns</i>
SDG&E-01-R	M. De Marco	14	Footnote	<i>Changed \$6.33 to \$6.22</i>
SDG&E-01-R	M. De Marco	16	25-26	<i>Deleted:</i> e. A&G Costs SDG&E applied A&G costs to its 20% share of the capital costs incurred by SCE.
SDG&E-01-R			Attachment A	<i>Replaced Attachment A (Estimate of SDG&E-ONLY (100%) Decommissioning Costs for Units 2 & 3) with corrected version</i>