

Application No.: A.16-03-004
Exhibit No.: SDGE-03
Witnesses: Sue E. Garcia
Adam H. Levin

PREPARED SUPPLEMENTAL TESTIMONY

ON BEHALF OF

SAN DIEGO GAS & ELECTRIC COMPANY

**(Reasonableness of SONGS 1 Decommissioning Activities and Costs Incurred by
SDG&E in 2009-2012 and 2013-2015)**

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

February 17, 2017

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**PREPARED SUPPLEMENTAL TESTIMONY
ON BEHALF OF SDG&E**

I. INTRODUCTION (S. GARCIA)

The purpose of this testimony is to demonstrate the reasonableness of San Onofre Nuclear Generating Station Unit No. 1 (“SONGS 1”) decommissioning expenses recorded by San Diego Gas & Electric Company (“SDG&E”).¹ This testimony provides support for SDG&E’s request that the California Public Utilities Commission (“CPUC” or “Commission”):

- 1) Approve as reasonable the \$2.8 million (SDG&E share, 2011\$) for SONGS 1 costs SDG&E’s share of SONGS 1 costs billed to SDG&E by Southern California Edison Company (“SCE”) between 2009 and 2012;² and
- 2) Approve as reasonable the \$1.3 million (SDG&E share, 2014\$) for SONGS 1 costs billed to SDG&E by SCE between January 1, 2013 and December 31, 2015.

This volume of testimony is organized as follows: Chapter II discusses the applicable reasonableness review standard, and how the standard should be applied considering SDG&E’s oversight role for SONGS Unit 1. Chapter III concerns SDG&E’s Unit 1 costs in 2009 through 2012. Chapter IV concerns SDG&E’s Unit 1 costs in 2013 through 2015 as billed by SCE.

SDG&E previously submitted testimony on these subjects in this proceeding as Ex. SDGE-01 (served March 1, 2016). This testimony supersedes Ex. SDGE-01.

II. STANDARD OF REASONABLENESS REVIEW OF SDG&E’S SONGS 1 COSTS (S. GARCIA)

A. Reasonableness Standard of Review

SDG&E respectfully requests that the Commission continue to apply its “reasonable manager standard” when completing its SONGS 1 decommissioning reasonableness reviews. The Commission’s reasonable manager standard reviews a utility’s actions based upon what the utility knew or should have known at the time the utility takes the action, not just the ultimate results or costs based on hindsight. The review standard also expressly provides that a utility’s actions “may be found to be reasonable and prudent if the utility shows that its decision making

¹ SCE holds an 80% interest and SDG&E holds a 20% interest in SONGS 1 decommissioning liability.

² These costs were reviewed in the 2012 NDCTP. Decision (“D.”) 14-12-082 disallowed \$13.9 million (100% share) in 2009-2012 SONGS 1 decommissioning expenses and stated that it “requires more accurate recorded costs and more fully explained variances in order to give final approval to these expenses.” D.14-12-082 at 49.

1 process was sound...., *even if it turns out not to have led to the best possible outcome.*”³ The
2 Commission’s reasonable manager standard does not hold the utilities to unachievable perfect
3 hindsight. It is therefore appropriate for the Commission to determine that SONGS 1
4 decommissioning activities and expenses are reasonable based on the information provided by
5 SCE and SDG&E in support of this Application.

6 **B. SDG&E’s Evolving Oversight of SONGS Unit 1**

7 SONGS is licensed under the Nuclear Regulatory Commission (“NRC”) as three units.
8 SDG&E has a 20% minority ownership stake in SONGS 1 and is contractually obligated to pay
9 its 20% ownership share of all Unit 1 decommissioning costs.⁴ SDG&E’s oversight role in
10 SONGS 1 has changed since 2009 in accordance with the overarching events at the plant site.

11 **1. 2009-2012**

12 SONGS 1 shutdown occurred in 1992; however, the first phase of active
13 decommissioning did not begin until 1999. Since then, SONGS 1 decommissioning activities
14 have been more limited as the majority of the SONGS site was operating as a nuclear plant with
15 SONGS 2&3.

16 In 2009 through 2012, as a minority owner, SDG&E had an oversight role at SONGS (as
17 it still does today). For instance, SDG&E had a dedicated employee at the plant to follow major
18 activities at the site (as it does today). However, its oversight role, in general, was more limited
19 during 2009-2012 compared to today.⁵ For example, during 2009-2012, SDG&E’s roles and
20 responsibilities for SONGS 1 were governed by San Onofre Unit 1 Decommissioning
21 Agreement. This governing document did not create the various co-owner review and approval
22 committees that exist today at SONGS under the 2015 Decommissioning Agreement. SDG&E’s
23 review of costs was typically done after-the-fact during the review and approval of quarterly
24 invoices. The quarterly invoices at that time had limited detail, making it more difficult for
25 SDG&E to validate the costs or tie to specific DCE line numbers.

³ D.05-08-037 at 10-11 (emphasis added).

⁴ SCE holds an approximately 75.74% interest, SDG&E holds a 20% interest, the City of Anaheim holds an approximately 2.47% interest, and the City of Riverside holds a 1.79% interest in SONGS 2&3 decommissioning liability, respectively.

⁵ See Ex. SDGE-02 for more detailed information for SDG&E’s oversight and fiscal management role at SONGS.

1 **2. 2013-2015**

2 Ever since the SONGS site started transitioning to a closed nuclear facility and entered
3 the decommissioning period in June 2013, SDG&E has worked to establish oversight – both
4 decommissioning activities at SONGS and the related fiscal and accounting activities – by
5 enhancing existing and establishing new processes and procedures. As described in more detail
6 in Ex. SDGE-02, SDG&E received greater review and approval powers through the
7 Decommissioning Agreement. Starting in 2015, the new decommissioning accounting system
8 was established, which resulted in SCE invoices being organized in accordance with the DCEs.
9 This facilitated SDG&E’s review of decommissioning costs to both budgets and the DCEs.
10 SDG&E also sought out the expertise of a decommissioning industry expert (Mr. A. Levin).

11 **C. The Commission Should Consider SDG&E’s Unique Oversight Role at**
12 **SONGS when Conducting its Reasonableness Review of SDG&E’s Costs**

13 As the Commission reviews SDG&E’s costs for SONGS 1, it will be important for the
14 Commission to adopt an articulable framework for completing predictable reasonableness
15 reviews. SDG&E respectfully recommends that the Commission keep SDG&E’s different
16 period-specific oversight and fiscal management roles for Unit 1 in mind when it determines the
17 reasonableness of SDG&E’s Unit 1 decommissioning costs.⁶

18 **III. REASONABLENESS OF SDG&E’S 2009–2012 UNIT 1 DECOMMISSIONING**
19 **COSTS (S. GARCIA)**

20 In D.14-12-082 (the 2012 NDCTP Phase 2 decision), the Commission ruled that SCE had
21 not met its burden of proof as to whether the \$13.9 million (100% share, 2011\$) of SONGS 1
22 decommissioning costs incurred during 2009-2012 were reasonable. Specifically, the
23 Commission found that SCE did not adequately tie specific activity and cost information to the
24 most recently approved DCE or adequately explain and support cost overruns.⁷ The Commission
25 ordered that the nuclear decommissioning trust (“NDT”) be reimbursed for these costs. SDG&E
26 interpreted the Decision to also direct SDG&E to return its share of the funds to its SONGS 1
27 Non-Qualified NDT. SDG&E complied with this order and returned \$1.7 million (SDG&E
28 share of the \$13.9 million, 2011\$) from its shareholders, which represents the amount SDG&E

⁶ SDG&E’s oversight and fiscal management roles and processes are described in detail in Ex. SDGE-02.

⁷ D.14-12-082 at 49.

1 had withdrawn from the SONGS 1 NDTs for SDG&E’s share of the disallowed expenses and
2 after accounting for various tax issues.⁸

3 D.14-12-082 stated that the Commission “requires more accurate recorded costs and more
4 fully explained variances to give final approval to these expenses.”⁹ SCE has served testimony
5 that provides extremely detailed information about the decommissioning activities, underlying
6 costs and variance explanations for Unit 1 in 2009 through 2012.¹⁰ Based on this information, as
7 well as SDG&E’s own review and the review of its decommissioning industry expert Mr. Levin
8 (both of which are described below), SDG&E believes that the Commission now has sufficient
9 information upon which it may give final approval for these expenses. Accordingly, SDG&E
10 requests approval to reimburse its shareholders from the Unit 1 non-qualified Trust for the
11 shareholder contribution previously made per Commission order (D.14-12-082).¹¹

12 **A. SDG&E Review of its 2009-2012 Unit 1 Costs (S. Garcia)**

13 The testimony of SCE witness Mr. Bledsoe offers detailed testimony about the Unit 1
14 costs incurred in 2009 through 2012, including how these costs reconciled to the SONGS 1
15 DCE.¹² SDG&E has reviewed this testimony and agrees with its conclusions.

16 Based upon SDG&E’s own review of the information provided by SCE and its own
17 information, SDG&E concurs that these Unit 1 activities and the underlying costs were
18 reasonable in 2009-2012.

19 **B. Decommissioning Industry Expert’s Review of 2009-2012 SONGS 1**
20 **Decommissioning Activities (A. Levin)**

21 During the period 2009-2012, SDG&E recorded a total of \$2.8 million (SDG&E share,
22 2011\$) for costs billed by SCE for SONGS 1 decommissioning. SDG&E is asking the
23 Commission to find these costs, as well as the activities underlying the costs to be reasonable.
24 Part of my role is to continually review and provide my expert opinion on the reasonableness of
25 decommissioning activities undertaken at SONGS 1 in the context of the broader nuclear

⁸ See SDG&E Advice Letter 2737-E (effective April 30, 2015) for additional detail.

⁹ D.14-12-082 at 49.

¹⁰ Ex. SCE-02 (B. Bledsoe; served March 1, 2016).

¹¹ The \$2.8 million disallowance equated to \$1.7 million after taxes reimbursed to the Unit 1 Trust.

¹² Ex. SCE-02.

1 decommissioning industry.¹³ The purpose of my testimony here is to provide my expert opinion
2 regarding the decommissioning activities undertaken at SONGS 1 during the period January 1,
3 2009, and December 31, 2012, and whether they were reasonable considering nuclear
4 decommissioning industry best practices.

5 During my nearly 40-year career in the commercial nuclear industry, I have participated in
6 12 major decommissioning projects.¹⁴ I have performed or participated in radiological
7 characterizations of reactor pressure vessels and internals, historical site assessments, design and
8 installation of dry cask storage technology, development of radiological release standards,
9 selection of and contract negotiations with decommissioning operations contractors, and general
10 oversight of decommissioning projects. While at Exelon Generation Company (“EGC”), my
11 responsibilities included the safe management of 12,600 metric tonnes of spent nuclear fuel, the
12 implementation and oversight of dry cask storage for spent nuclear fuel at eight sites,¹⁵ the
13 development of strategic initiatives to meet EGC’s long-term decommissioning and spent fuel
14 management needs, and oversight of decommissioning cost estimates and EGC’s \$12 billion
15 decommissioning liability.¹⁶

16 SONGS 1 is well along in the decommissioning process. Notwithstanding the work that
17 requires completion in conjunction with the decommissioning of SONGS 2&3, much of the
18 radiological decommissioning work has been completed, and the spent nuclear fuel from
19 SONGS 1 has been placed into dry cask storage on site. During the period 2009 through 2012,
20 certain needed site restoration and other decommissioning activities were completed – most very

¹³ I have previously provided oral and written testimony to the Commission regarding nuclear decommissioning at SONGS. A.14-12-007; see also A.15-02-006 (currently pending).

¹⁴ Specifically, Cintichem, Inc., Saxton Nuclear Power Plant, 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.

¹⁵ Peach Bottom Atomic Power Station, Limerick Generating Station, Oyster Creek Nuclear Generating Station, Byron Station, Braidwood Station, LaSalle County Station, Quad Cities Nuclear Power Station and Dresden Nuclear Power Station.

¹⁶ In addition, in my roles as Technical Advisor for TLG Services, Inc. (decommissioning cost estimators) and Director, Spent Fuel and Decommissioning, for Exelon Generation Company, LLC (“EGC”), I had the opportunity to develop and review decommissioning cost estimates for more than 40 nuclear units. During my tenure at EGC, EGC owned and operated 17 operating and four retired nuclear units.

1 specific to the SONGS 1 site. The activities are those I would expect to see performed in the
2 latter stages of radiological decommissioning and the middle stages of site restoration, based
3 upon my prior and current industry experience. As discussed in further detail below, I find all
4 the Unit 1 activities performed 2009-2012 are reasonable in my professional opinion, and also
5 when compared (when relevant), to the conduct of operations at similar, contemporary industry
6 decommissioning projects. For the reader's ease, I discussed these activities below in the same
7 sequence SCE discussed them in its testimony.¹⁷

8 **1. Post-Phase I Closeout Activities (Distributed)**

9 **a. Waste Management¹⁸**

10 Much of SONGS 1 radiological decommissioning took place during the period 1999
11 through 2008. While SCE administratively declared the end of Phase I decommissioning
12 activities on December 31, 2008, substantial amounts of low-level radioactive waste (LLRW)
13 and a small amount of hazardous waste remained on site awaiting disposition in 2009. This
14 waste included contaminated building debris (concrete rubble and scrap metal), contaminated
15 soil, and contaminated tools and equipment used during decommissioning activities. Since
16 license termination requirements necessitate the removal of these wastes, I consider their
17 disposition a reasonable activity.

18 **b. Bluff Stabilization¹⁹**

19 The decommissioning process at SONGS 1 includes restoring the site such that
20 occupational hazards are eliminated, whether they impact SONGS 2&3 personnel at the site, or
21 other future uses of the site. Additionally, the site must remain capable of safely storing spent
22 nuclear fuel at the ISFSI until such time that the DOE accepts it for disposal.

23 The north side bluff at the SONGS site was showing substantial degradation as
24 decommissioning activities at SONGS 1 neared completion. SCE made the decision to stabilize
25 the bluff by removing loose material, applying reinforcing steel mesh and gunite, providing
26 proper drainage, repaving surfaces at the top of the bluff, and restoring utilities leading to the
27 onsite Meteorological Tower.

¹⁷ Ex. SCE-02.

¹⁸ Ex. SCE-02 at 5-7.

¹⁹ Ex. SCE-02 at 7-9.

1 Restoration of the bluff not only eliminates certain personnel and equipment hazards, but
2 also minimizes future expense to maintain this area of the site. Based upon the above, I consider
3 this effort to be a reasonable activity.

4 **c. Utility Trench²⁰**

5 Decommissioning at one unit of a multi-unit nuclear plant site often leads to the
6 disruption of equipment required to support the other units on site. I have personally witnessed
7 this occurring at two plants with multiple units each – the Peach Bottom Atomic Power Station
8 and Dresden Nuclear Power Station. Decommissioning activities (though only partially
9 complete at Dresden Unit 1 and Peach Bottom Unit 1) affected the other units at both sites. The
10 impacts included the need to re-route certain piping and electrical equipment, and the installation
11 of support equipment (e.g., electrical and fire) for the operating units required by the layup
12 and/or removal of equipment at the retired units. Multiple unit sites typically build upon existing
13 infrastructure, and this is the reason decommissioning of one unit on site normally leads to some
14 modifications for the other units.

15 At SONGS, the decommissioning of Unit 1 affected onsite fire protection, certain
16 electrical systems, service water systems and cathodic protection systems. I find it reasonable
17 for SCE to have undertaken activities to restore these systems to assure proper operations at
18 Units 2&3, by rerouting these systems through a newly-installed utility trench.

19 **d. MARSSIM²¹**

20 NRC's website describes the MARSSIM document as follows;

21 The MARSSIM provides information on planning, conducting, evaluating,
22 and documenting building surface and surface soil final status radiological
23 surveys for demonstrating compliance with dose or risk-based regulations
24 or standards. The MARSSIM is a multi-agency consensus document that
25 was developed collaboratively by four Federal agencies having authority
26 and control over radioactive materials: Department of Defense (DOD),
27 Department of Energy (DOE), Environmental Protection Agency (EPA),
28 and Nuclear Regulatory Commission (NRC). The MARSSIM's objective
29 is to describe a consistent approach for planning, performing, and
30 assessing building surface and surface soil final status surveys to meet

²⁰ Ex. SCE-02 at 9-12.

²¹ Ex. SCE-02 at 12-13.

1 established dose or risk-based release criteria, while at the same time
2 encouraging an effective use of resources.²²

3 The MARSSIM's final radiation survey protocol was employed by NRC at SONGS 1 to
4 demonstrate compliance with NRC's unrestricted release standards. In 2009, SCE completed
5 radiation surveys of areas at SONGS 1 that had not been previously surveyed. The survey
6 activity is NRC-required and the survey technique is supported by the NRC. MARSSIM surveys
7 have been utilized by other contemporary decommissioning sites – for example the Trojan
8 Nuclear Plant, Maine Yankee and Big Rock Point – and is therefore considered a reasonable
9 activity at SONGS 1.

10 **e. Demobilization²³**

11 Demobilization is a general term to describe the activities that occur to exit active
12 decommissioning. Demobilization SONGS 1 included activities such as removing temporary
13 structures that were originally established to support decommissioning activities, disposing of
14 equipment used to perform decommissioning and no longer required by SCE to maintain the
15 SONGS 1 site, and performing radiation surveys of all equipment and material released from the
16 site. This is a necessary final step in the decommissioning process and therefore considered a
17 reasonable activity.

18 **f. Remaining Distributed Activities – Yard Sump, Seawall
19 Restoration, Southwest Quadrant and Other Decommissioning
20 Activities²⁴**

21 The remaining activities are described as follows:

- 22 a.) Yard Sump – refurbishment of the existing sump and installation of new radiation
23 monitors. The Yard Sump is a monitored effluent release point at the SONGS
24 site, and as long as SCE holds an NRC license, this sump is required to be
25 operational.
- 26 b.) Seawall Restoration – conduits and piping associated with onsite utilities had
27 been attached to the seawall. The degrading condition of the seawall required
28 these utilities to be rerouted through a newly-installed utility trench. After

²² <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1575/r1/#intro>

²³ Ex. SCE-02 at 13-14.

²⁴ Ex. SCE-02 at 20-23.

1 removal of these items from the seawall, the seawall was reconditioned. The
2 seawall is required to protect the site from the Pacific Ocean wave action, and
3 therefore its refurbishment is necessary.

- 4 c.) Southwest Quadrant – this activity refers to the removal of an abandoned
5 underground contaminated pipe, soil remediation, and grading and paving of the
6 surface once restored to site grade. Paving the surface prevents future erosion.
- 7 d.) Other Decommissioning Activities – installation and/or relocation of temporary
8 structures to support activities (e.g., bathrooms, trailers, tool rooms),
9 refurbishment of portions of the Cathodic Protection System, and relocation of
10 certain electrical transformers and switchgear to a pad elevated sufficiently to
11 prevent future flood damage based upon the final grading performed at the site.

12 These activities are final decommissioning and site-restoration related, necessary to bring
13 the SONGS 1 site to a condition suitable for continuing licensed and decommissioning activities
14 at Units 2&3 and for future site activities. These activities are a necessary part of the
15 decommissioning process and are therefore reasonable to perform.

16 **2. Post-Phase I Closeout Activities (Undistributed)**

17 I have also reviewed supporting and overhead activities that occurred at SONGS 1 during
18 the period 2009-2012. These activities include as follows:

- 19 • **Labor Overhead and Allocations (for 2009)** – a percentage of the recorded
20 costs for the activities performed in 2009, allocated in a manner similar to how
21 SCE applies such overhead costs to capital projects.
- 22 • **Long Term Maintenance** – services provided for the SONGS 1 ISFSI
23 monitoring (including security and utilities), and maintaining the material
24 condition of the SONGS 1 reactor vessel package stored on site.
- 25 • **NRC Fees** – amounts paid to NRC in annual fees and inspection fees directly
26 related to NRC’s oversight of SONGS
- 27 • **NEI Groundwater Protection Initiative** – NEI-developed and NRC-mandated
28 groundwater monitoring installed along the SONGS 1 seawall.
- 29 • **Miscellaneous Decommissioning Activities** – SCE engineering and construction
30 support and premiums for liability and property insurance.

31

- **Labor Overhead and Allocations (for 2010-2012)** – allocated corporate support and SONGS site operations and maintenance expenses for SONGS 1.

These activities generally represent those necessary to maintain a NRC-licensed nuclear power plant and to meet all NRC license conditions. Additionally, corporate support and site common overhead expenses are necessary to effectively complete decommissioning activities. I find all the undistributed activities identified here to be similar to those occurring at other decommissioning nuclear plants, and reasonable to occur at SONGS 1.

IV. REASONABLENESS OF SONGS UNIT 1 DECOMMISSIONING COSTS SCE BILLED TO SDG&E FROM 2013 TO 2015 (S. GARCIA)

SDG&E incurred and recorded \$1.3 million (SDG&E share, 2014\$) during the period January 1, 2013 through December 31, 2015 for costs incurred by SCE and invoiced to SDG&E for the following SONGS Unit 1 activities:²⁵

- a.) 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 (“CSLC”);
- b.) 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;
- c.) Security, maintenance and monitoring of the SONGS Unit 1 spent fuel stored at the SONGS site;
- d.) Updating the 2012 SONGS 1 DCE;
- e.) NRC fees; and
- f.) Insurance (e.g., workers’ compensation, property and liability insurance).

SDG&E has reviewed the testimony provided by SCE in support of the Unit 1 activities in 2013 through 2015 outlined above and any variances to the Unit 1 DCE²⁶ and finds that the testimony provides sufficient detail about the costs and any variances from the Unit 1 DCE.

SDG&E has also conducted its own review of these costs billed by SDG&E. Finally, SDG&E

²⁵ Ex. SCE-03 at 5 (B. Bledsoe; served March 1, 2016). SCE witness Bledsoe compares the 2012 Unit 1 DCE estimate of \$12.4 million (2011\$) versus recorded costs of \$6.2 million (2011\$) for the 2013 through 2015 years at the 100% share level. The corresponding cost for SDG&E for its 20% share with contractual overheads is \$1.2 million (2011\$).

²⁶ Ex. SCE-03.

1 witness Levin testifies below to these activities as being reasonable tasks necessary for
2 decommissioning. SDG&E concurs with SCE's testimony that SONGS 1 activities during 2013
3 through 2015 were appropriate and that the variances with the 2012 DCE are understandable.
4 Therefore, SDG&E respectfully requests that the Commission find the \$1.3 million (SDG&E
5 share, 2014\$) for SONGS 1 costs billed to SDG&E by SCE between January 1, 2013 and
6 December 31, 2015 are reasonable.

7 **A. SDG&E's Review of the Unit 1 2013-2015 Activities and Costs Billed by SCE**
8 **(S. Garcia)**

9 SDG&E reviewed the costs billed by SCE in 2013 through 2015 for Unit 1, and
10 underlying activities, and found them to be reasonable. SDG&E's site representative reviewed
11 day-to-day decommissioning activities and progress for Unit 1, and provided contact and
12 interaction with SONGS decommissioning management and personnel. During this period,
13 SDG&E participated in meetings specific to many of the activities listed above. For example,
14 SDG&E participated in meetings with SCE regarding CSLC leases, jurisdiction, and
15 requirements for site decommissioning, including the conduits for all three units. Through
16 SDG&E's participation in these meetings, we understand the issues and concur that SCE has
17 taken the appropriate actions necessary to decommission Unit 1 and satisfy the CSLC.

18 SDG&E continued review invoices and track expenditures against SCE-internal budgets
19 and the DCE estimates. Specific project work undertaken at SONGS Unit 1 in 2013 through
20 2015 that SDG&E monitored included: budget variance review and reporting; disposition of
21 SONGS Unit 1 offshore conduits; groundwater sampling; security, maintenance and monitoring
22 of the SONGS Unit 1 spent fuel; and updating the 2012 SONGS Unit 1 DCE.

23 **B. Decommissioning Industry Expert's Review of the Unit 1 2013-2015**
24 **Activities (A. Levin)**

25 SDG&E has retained me as one of its decommissioning experts. Part of my role is to
26 provide expert opinion to SDG&E on decommissioning activities performed at SONGS. The
27 purpose of this testimony is to provide my findings for the reasonableness of SONGS Unit 1
28 activities which occurred during the period 2013-2015.

1 As noted above, SONGS 1 is well along in the decommissioning process. Phase II of the
2 SONGS 1 decommissioning project commenced on January 1, 2009 and continues today. The
3 Phase II decommissioning activities performed at SONGS 1 during 2013-2015 included:²⁷

- 4 1. **Offshore Conduit Disposition** - disposition of the SONGS Unit 1
5 Offshore Intake and Discharge Conduits consistent with an amendment to
6 SCE's Grant of Easement with the California State Lands Commission.²⁸
- 7 2. **NEI Groundwater Protection Initiative** – water sampling and
8 maintenance of the NEI-developed and NRC-mandated groundwater
9 monitoring installed along the SONGS 1 seawall.
- 10 3. **Spent Fuel Security and Maintenance** - services provided for the
11 SONGS 1 ISFSI monitoring (including security and utilities).
- 12 4. **2016 SONGS 1 DCE Preparation** - SCE is required to submit an updated
13 decommissioning cost estimate in the NDCTP to account for changes in
14 regulations, technology, and economics. To meet this requirement, SCE
15 contracted with Energy Solutions to update the SONGS 1 DCE for the
16 remaining decommissioning work.
- 17 5. **NRC Fees** - amounts paid to NRC in annual fees and inspection fees
18 directly related to NRC's oversight of SONGS 1.
- 19 6. **Insurance** – premiums for nuclear property and workers' compensation
20 insurance coverage.

21 Based upon my understanding of NRC regulatory and State requirements, the activities
22 performed and decommissioning costs incurred at SONGS Unit 1 are expected and consistent
23 with industry practices. My review of SCE's testimony and the activities performed during the
24 period 2013-2015, and based upon my experience with similar decommissioning activities and
25 their costs, I found the work performed and the costs incurred to be reasonable.

²⁷ My opinion on several of these activities is described in more detail above in Section III.B.

²⁸ This activity was very similar, in approach, to the disposition of the intake and discharge conduits at Zion Station leading into Lake Michigan – cutting and capping the vertical portions of the intake and discharge structures, and allowing the sections of buried conduit to remain in place.

1 **WITNESS QUALIFICATIONS FOR 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 a decommissioning advisor to SDG&E.

5 Since my retirement from Exelon Generation Company in April 2013, I have been
6 consulting to the international nuclear energy community, doing business as AHL Consulting. I
7 currently provide decommissioning and spent fuel management consulting services to Duke
8 Energy Florida Crystal River 3 (Decommissioning Project Management Oversight Board),
9 EnergySolutions, LLC, as well as SDG&E (Decommissioning Advisor). Additionally, I am
10 providing consulting services to the Department of Energy (“DOE”), Office of Nuclear Energy
11 (“DOE-NE”), where I currently support several activities of the Office of Integrated Waste
12 Management, under DOE-Nuclear Energy. The Office of Integrated Waste Management is
13 DOE’s program to implement recommendations made by the Blue Ribbon Commission on
14 America’s Nuclear Future regarding the long-term management of spent nuclear fuel in the
15 United States. Prior to April 2013, I spent 16 years at Exelon in Illinois, the last seven years as
16 Director, Spent Fuel and Decommissioning for Exelon’s fleet of 19 operating and four retired
17 nuclear units. Specifically, in that role I provided governance and oversight to Exelon’s
18 decommissioning activities and decommissioning cost estimating, and supported Exelon’s
19 corporate finance and tax organizations with trust fund asset management and financial
20 reporting.

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

26 I have previously testified before this Commission.