

Application No.: A.15-01-014/15-02-006  
Exhibit No.: SDGE-05  
Witnesses: Sue E. Garcia  
Adam H. Levin

**PREPARED SUPPLEMENTAL TESTIMONY**

**ON BEHALF OF**

**SAN DIEGO GAS & ELECTRIC COMPANY**

**(Reasonableness of Nuclear Decommissioning Costs Recorded by SDG&E in 2014)**

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

**February 17, 2017**

TABLE OF CONTENTS

1

2 **I. INTRODUCTION (S. GARCIA) ..... 1**

3 **II. OVERVIEW (S. GARCIA)..... 1**

4 **III. STANDARD OF REASONABLENESS REVIEW OF SDG&E’S 2014 SONGS**

5 **COSTS (S. GARCIA) ..... 3**

6 **A. Reasonableness Standard of Review ..... 3**

7 **B. In 2014, SDG&E Held an Oversight Position at SONGS ..... 3**

8 **1. SDG&E’s Oversight Role of Activities at SONGS..... 4**

9 **2. SDG&E’s Fiscal Management Role and Procedures ..... 5**

10 **C. The Commission Should Consider SDG&E’s Unique Oversight Role at**

11 **SONGS When Conducting its Reasonableness Review of SDG&E’s 2014**

12 **Costs ..... 6**

13 **IV. SDG&E’s 2014 RECORDED COSTS BILLED BY SCE (S. GARCIA)..... 6**

14 **A. SDG&E’s Review of 2014 Activities..... 6**

15 **B. SDG&E’s Recorded 2014 Costs Billed by SCE Are Reasonable When**

16 **Compared to the DCE, When Possible ..... 8**

17 **V. REASONABLENESS REVIEW OF 2014 DECOMMISSIONING ACTIVITIES AT**

18 **SONGS (A. LEVIN)..... 9**

19 **A. Benchmarking 2014 Decommissioning Activities at SONGS Against Recent**

20 **Industry Decommissioning Projects..... 10**

21 **B. Review of SONGS Units 2&3 Decommissioning Activities Undertaken in**

22 **2014..... 12**

23 **1. Decommissioning Activities Completed During 2014 (Distributed) ..... 12**

24 **2. Support and Overhead Activities During 2014 (Undistributed) ..... 14**

25 **3. Decommissioning Activities In-Progress During 2014 (Distributed). 15**

26 **C. Conclusions..... 22**

27 **VI. SDG&E-ONLY COSTS INCURRED IN 2014 ARE REASONABLE (S. GARCIA)**

28 **..... 22**

29 **A. SDG&E Labor Costs ..... 23**

30 **B. SDG&E Non-Labor Costs..... 24**

1  
2  
3  
4

**1. Consultant..... 24**  
**2. Outside Legal..... 24**  
**3. Property Taxes ..... 25**

1 **PREPARED SUPPLEMENTAL TESTIMONY**

2 **ON BEHALF OF SDG&E**

3  
4 **I. INTRODUCTION (S. GARCIA)**

5 This testimony provides support of San Diego Gas and Electric Company’s (“SDG&E”)  
6 requests that the California Public Utilities Commission (“CPUC” or “Commission”):

- 7 1) Approve as reasonable the \$33.9 million (SDG&E share, 2014\$) for SONGS  
8 Units 2&3 decommissioning expenses billed to SDG&E by Southern California  
9 Edison Company (“SCE”) and recorded by SDG&E between January 1, 2014 and  
10 December 31, 2014; and  
11 2) Approve as reasonable the \$3.7 million<sup>1</sup> (2014\$) in SDG&E-only costs for  
12 SONGS Units 2&3 incurred January 1, 2014 through December 31, 2014.

13 In this testimony, SDG&E presents its recorded decommissioning costs for 2014. This  
14 volume of testimony is organized as follows: Chapter II provides a brief overview of SDG&E’s  
15 requests. Chapter III discusses the reasonableness review standard applicable to SDG&E’s  
16 requests, and how the standard should be applied considering SDG&E’s oversight role in 2014.  
17 Chapter IV provides a reasonableness review of SDG&E’s 2014 costs incurred, as billed by  
18 SCE. Chapter V provides a review by SDG&E’s nuclear industry expert of the major activities  
19 undertaken by SCE in 2014. Chapter VI provides a reasonableness review of the SDG&E-only  
20 costs incurred in 2014.

21 This testimony supersedes SDG&E’s previously submitted testimony (SDGE-01, SDGE-  
22 02, SDGE-03, SDGE-01-A, SDGE-02-A, SDGE-03).

23 **II. OVERVIEW (S. GARCIA)**

24 This testimony fulfills the requirements of Commission Decision (D.) 14-11-040, which  
25 directed SCE and SDG&E to file separate applications for review of their respective recorded  
26 2014 San Onofre Nuclear Generating Station Unit Nos. 2&3 (“SONGS 2&3” or “SONGS Units  
27 2&3”)) expenses. The Decision required SDG&E to file *all* its 2014 SONGS Units 2&3 costs

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<sup>1</sup> All internal costs referenced in this document are from the SDG&E’s 2014 Recorded Costs Advice Letter 2806-E, approved by the Commission with an effective date of November 22, 2015. Adjustment to these internal costs of approximately \$9,000 were included in SDG&E’s 2015 Recorded Costs Advice Letter 2904-E, approved by the Commission with an effective date of July 18, 2016.

1 for reasonableness review<sup>2</sup> (unlike the Nuclear Decommissioning Cost Triennial Proceedings,  
2 which only review costs associated with completed projects).

3 This testimony demonstrates the reasonableness of SDG&E's 2014 SONGS 2&3  
4 decommissioning expenses of \$37.6 million (SDG&E share, 2014\$). This amount includes  
5 \$33.9 (SDG&E share, 2014\$) million of costs recorded in 2014 billed by SCE to SDG&E. It  
6 also includes \$3.7 million (2014\$) of costs recorded in 2014 for "SDG&E-only" activities.<sup>3</sup>

7 Table 1 summarizes these expenses compared to SDG&E's 20% share of the SONGS  
8 2&3 2014 Decommissioning Cost Estimate ("SONGS 2&3 DCE" or "2014 DCE") approved in  
9 D.16-04-019.

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<sup>2</sup> Mirroring the language of the Settlement Agreement that it approved, D.14-11-040 contained rather confusing language about the particular costs to be reviewed in this Application. Specifically, it ordered SCE and SDG&E to "each file an application to recover costs for 2014 operations and maintenance and non-operations and maintenance expenses at the San Onofre Nuclear Generating Station, whether requesting recovery in general rates or the decommissioning trusts." D.14-11-040 at Ordering Paragraph ("OP") 4. The underlying Settlement Agreement defines "Non-O&M [Operations and Maintenance] Expenses" as "All SONGS-related expenses recorded in FERC accounts 408, 924, 925, and 926 that are not:

- (a) Non-O&M Balancing Account Expenses;
- (b) Capitalized overhead; or
- (c) Recorded in FERC accounts 517-532."

I.12-10-013, *SONGS OII Amended And Restated Settlement Agreement Between Southern California Edison Company, San Diego Gas & Electric Company, The Office Of Ratepayer Advocates, The Utility Reform Network, Friends of The Earth, and The Coalition Of California Utility Employees* (September 23, 2014) ("OII Settlement Agreement") at sec. 2.28.

Following the specific language of D.14-11-040, SDG&E previously presented its testimony for its 2014 SONGS costs in "O&M" and "non-O&M" categories. Ex. SDGE-01, 02, 03 (January 30, 2015); Ex. SDGE-01A, 02A, 03A (April 1, 2015). In the interest of simplicity and the reader's ease, this volume of testimony, which supersedes the previous volumes, categorizes all of SDG&E's 2014 costs as "decommissioning costs", and further categorizes them into "costs billed by SCE" and "SDG&E-only" costs.

<sup>3</sup> There was no invoicing or accounting system in place in 2014 that allowed SDG&E to record its costs in the "undistributed" and "distributed" cost categories used by SCE in its testimony in this proceeding. Therefore, SDG&E's testimony for 2014 refers to costs as those "billed by SCE" or "SDG&E-only."

**Table 1**  
**Summary of 2014 SDG&E Costs**  
**(2014\$ Constant Dollars in Millions, 20% Level)**

	Category	DCE	Recorded	Variance
1	Decommissioning Costs billed by SCE	52.7	33.9	18.8
2	SDG&E Only Costs (100% Share)	1.8	3.7	(1.9)
3	<b>Total</b>	<b>54.5</b>	<b>37.6</b>	<b>16.9</b>

**III. STANDARD OF REASONABLENESS REVIEW OF SDG&E’S 2014 SONGS 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 2&3 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.<sup>4</sup> 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 process was sound..., *even if it turns out not to have led to the best possible outcome.*”<sup>5</sup> The Commission’s reasonable manager standard does not hold the utilities to unachievable perfect hindsight. It is therefore appropriate for the Commission to determine that SONGS 2&3 decommissioning activities and expenses are reasonable based on the information provided by SCE and SDG&E in support of this Application.

**B. In 2014, SDG&E Held an Oversight Position at SONGS**

SONGS is licensed under the Nuclear Regulatory Commission (“NRC”) as three units. 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 costs including decommissioning costs.<sup>6</sup> As recognized by the NRC, SCE is the licensee as well as the operating agent.

<sup>4</sup> In re San Diego Gas & Electric Company, D.05-08-037; In the Matter of the Application of Golden State Water Company, D.09-05-025.

<sup>5</sup> D.05-08-037, at 10-11 (emphasis added).

<sup>6</sup> 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 (referred to as “Co-Participants”).

1 SCE announced that SONGS 2&3 would proceed to decommissioning in June 2013.  
2 SDG&E and the other SONGS Co-Participants did not participate in SCE’s decision to close  
3 SONGS and commence decommissioning. In 2014, SCE was the decommissioning agent, as it  
4 is today. During 2014, the SONGS site was primarily focused on early decommissioning  
5 planning and pre-dismantlement and pre-decommissioning activities. The SONGS Co-  
6 Participants had not yet entered into the SONGS Decommissioning Agreement in 2014.<sup>7</sup>

7 Ever since the SONGS site started transitioning to a closed nuclear facility and  
8 commencing decommissioning June 2013, SDG&E has worked to establish oversight – both of  
9 the decommissioning activities at SONGS and the related fiscal and accounting activities – by  
10 bolstering existing and establishing new oversight processes and procedures. This testimony  
11 describes the processes and procedures in place in 2014.

### 12 **1. SDG&E’s Oversight Role of Activities at SONGS**

13 After closure, SDG&E sought to bolster its oversight role of decommissioning activities  
14 at SONGS with personnel. First, SDG&E sought to create an internal SONGS decommissioning  
15 group (“SONGS team” or “SONGS group”). In 2014, SDG&E had three employees working on  
16 SONGS decommissioning: one on-site employee, a budget analyst and a manager. The  
17 dedicated SDG&E employee stationed at the plant followed major activities at the site and  
18 reported to SDG&E management plant status relative to projects and budget. As such, this  
19 employee participates in middle and upper management site meetings to keep apprised of  
20 decommissioning activities and plans. Specifically, in order to understand the activities  
21 occurring at the plant, the employee attended daily plant meetings, weekly project status  
22 meetings, and monthly executive level co-owner meetings.

23 Second, soon after shutdown, SDG&E retained a spent nuclear fuel/decommissioning  
24 consultant, Mr. Adam Levin, to serve as an industry consultant to its SDG&E SONGS team. Mr.  
25 Levin continues provides valuable insight as to past and present decommissioning activities  
26 within the industry, NRCs requirements, and nuclear issues before the Department of Energy

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<sup>7</sup> In April 2015, SDG&E executed a decommissioning agreement (“Decommissioning Agreement”) with the other three co-participants that governs SDG&E co-owner participation. The Decommissioning Agreement establishes a decommissioning agent, participant funding responsibilities and participant involvement in the governance of the decommissioning agent. This Decommissioning Agreement governs the decommissioning of all three units.

1 (“DOE”). He serves as SDG&E’s industry expert when we seek confirmation that activities or  
2 plans for SONGS comport with industry practices.

## 3 **2. SDG&E’s Fiscal Management Role and Procedures**

4 As a 20% minority owner of all three units at SONGS, SDG&E has a fiscal responsibility  
5 to fund 20% of the decommissioning activities at SONGS. In 2014, SDG&E had several  
6 procedures and processes in place to fulfill its fiscal management role as a minority owner of  
7 SONGS.

8 First, SDG&E structured its internal SONGS decommissioning group with an emphasis  
9 on fiscal review. As described in Section 1 above, this group had three employees, including a  
10 budget analyst.

11 Second, SDG&E tracked performance to budget on a monthly basis. SDG&E reviewed  
12 the monthly budget and performance reports prepared by SCE each month. SDG&E followed up  
13 with SCE regarding significant under and over-budget line items to determine the reason for the  
14 variance.

15 Third, SDG&E reviewed SCE’s monthly decommissioning invoices before authorizing  
16 payments. Each invoice was reviewed for accuracy. Any unusual or unexpected fluctuations  
17 were followed up with SCE. Invoices were approved by both SDG&E Generation Accounting  
18 and the SDG&E SONGS teams.

19 Fourth, in 2016, once SCE provided SDG&E with information about previously billed  
20 2014 costs by DCE line items, SDG&E performed an after-the-fact accounting reconciliation.  
21 The reconciliation determined that previous billings from SCE were reconcilable by DCE line  
22 item.

23 Lastly, in 2016 in accordance with the 2015 Decommissioning Agreement, an audit was  
24 done by PricewaterhouseCoopers of decommissioning costs billed by SCE to the SONGS Co-  
25 Participants for the time period June 7, 2013 through December 31, 2015. The audit report  
26 concluded that the SONGS decommissioning costs for the period were an accurate presentation  
27 of decommissioning costs, only including eligible decommissioning costs, and were  
28 appropriately allocated among the Co-Participants.



1           **C.     The Commission Should Consider SDG&E’s Unique Oversight Role at**  
2           **SONGS When Conducting its Reasonableness Review of SDG&E’s 2014**  
3           **Costs**

4           As the Commission commences reviewing SONGS 2&3 decommissioning expenses, it  
5 will be important for the Commission to adopt an articulable framework for completing  
6 predictable reasonableness reviews. SDG&E respectfully recommends that the Commission  
7 keep SDG&E’s unique oversight role in mind when it determines the reasonableness of  
8 SDG&E’s 2014 decommissioning costs.

9           **IV.     SDG&E’S 2014 RECORDED COSTS BILLED BY SCE (S. GARCIA)**

10          SDG&E recorded \$37.6 million (SDG&E share, 2014\$) total Units 2&3  
11 decommissioning 2014 expenditures for its SONGS obligation, \$33.9 million (SDG&E share,  
12 2014\$) of which are for decommissioning costs billed by SCE.

13          SDG&E seeks a Commission finding that the \$33.9 million (2014\$, SDG&E share) for  
14 decommissioning costs billed by SCE are reasonable. As described below, in its oversight role,  
15 SDG&E conducted its own review of these costs and underlying activities. To the extent  
16 possible, SDG&E also reviewed its recorded 2014 costs to the DCE. SDG&E has concluded that  
17 the costs it was billed by SCE and recorded in 2014 were reasonable. Therefore, SDG&E  
18 respectfully requests the Commission to find its 2014 recorded costs billed by SCE as  
19 reasonable.

20           **A.     SDG&E’s Review of 2014 Activities**

21          SCE witness, Mr. Lou Bosch, presents Units 2&3 decommissioning costs for completed  
22 distributed projects, undistributed and in-progress projects for the 2014 years at the 100% share  
23 level.<sup>8</sup> Based upon informed provided by SCE to SDG&E’s on-site representatives, as well as  
24 the information described by Mr. Bosch, SDG&E concurs that these efforts were appropriate in  
25 2014. To understand the activities occurring at the plant in 2014, SDG&E attended planning  
26 meetings, weekly project status meetings, and monthly executive level co-owner meetings.

27          Because of the timing of SCE’s implementation of the SONGS decommissioning  
28 accounting system, it was not possible for SDG&E to track its SCE invoices in alignment with

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<sup>8</sup> A.16-03-004, Ex. SCE-09 at 2.

1 the 2014 DCE cost categories.<sup>9</sup> All invoices received by SDG&E in 2013<sup>10</sup> through February of  
 2 2015 were billed to SDG&E in the old O&M and Capital format, and not the DCE’s Work  
 3 Breakdown Structure (“WBS”). In 2014, SCE was in the process of developing a  
 4 decommissioning cost tracking and accounting system, capable of billing SDG&E in accordance  
 5 with the DCE format, but the new decommissioning accounting system was not implemented  
 6 until January 2015.<sup>11</sup>

7 The 2014 invoices from SCE categorized costs by “O&M,” “Capital Expenditures” and a  
 8 few other categories. Table 2 shows the 2014 SDG&E decommissioning costs billed by SCE by  
 9 category.

10 **Table 2**  
 11 **Summary of 2014 SDG&E Decommissioning Costs Billed by SCE**  
 12 **(2014\$ Constant Dollars in Millions, 20% Level)**

	Category	DCE	Recorded
1	SONGS O&M as billed by SCE <sup>12</sup>	Not Available	29.9
2	Capital Expenditure and Material and Supply Billings from SCE	Not Available	3.8
3	Insurance	1.0	(0.2)
4	SONGS Station Energy	1.2	0.4
6	<b>Total</b>	<b>52.7</b>	<b>33.9</b>

13  
 9 For the same reason, it is not possible today in this testimony for a comparison for SDG&E to provide a breakdown of its 2014 SONGS costs as billed by SCE in alignment with the cost categories in the 2014 DCE.

10 Due to the fact that SONGS 2013 costs have been deemed reasonable as part of the OII proceeding, SDG&E will not be presenting these costs at this time and will therefore only be able to isolate 2014 costs for reasonableness review in the old capital and O&M format. D.14-11-040, Appendix B “Amended and Restated Settlement Agreement,” at 20-23.

11 Due to the two-month lag in billing, SDG&E did not receive its first invoice in the new decommissioning format until March of 2015. At that time, a true-up entry, restating all costs previously billed as O&M and Capital from June 2013 through December 2015 was issued. However, the entry was provided in aggregate by year only (i.e., 2013, 2014 and 2015), not by month. As a result, and due to the two-month billing lag, SDG&E is unable to isolate 2013 and 2014 billed costs in the DCE format, and only able to report them in aggregate.

12 Includes nuclear fuel contract cancellation costs and decommissioning planning costs.

1           **B.     SDG&E’s Recorded 2014 Costs Billed by SCE Are Reasonable When**  
2           **Compared to the DCE, When Possible**

3           For the reasons described above, it is not possible for SDG&E to compare the majority of  
4 its 2014 costs billed by SCE to the 2014 DCE by cost category. Instead, SDG&E looks to SCE’s  
5 testimony on the subject. In A.16-03-004, Ex. SCE-09 (referred to herein as “Ex. SCE-09”), SCE  
6 witness Mr. Lou Bosch offers testimony that provides this comparison at the 100% cost level for  
7 which SDG&E’s obligation is 20%. SDG&E has reviewed Ex. SCE-09 and agrees with SCE’s  
8 conclusions.

9           In his testimony, Mr. Bosch stated that “SCE did not perform each decommissioning  
10 activity precisely in accordance with the estimate and schedule in the SONGS 2&3 DCE, and  
11 SCE revised schedules so decommissioning would proceed safely and efficiently, and comply  
12 with all applicable regulatory requirements.”<sup>13</sup> For example, Mr. Bosch identified that the  
13 primary cause of costs for distributed activities completed in 2014 being higher by \$0.1 million  
14 (100% share, 2014\$) than the DCE was due to the need to implement the NRC-required Flex  
15 Initiative recommendations, which was not a part of the 2014 DCE.<sup>14</sup>

16           Actual undistributed costs for 2014 was \$11.9 million (100% share, 2014\$) lower than  
17 the 2014 DCE. Mr. Bosch identified that actual undistributed labor was lower by \$7.9 million  
18 (100% share, 2014\$). In addition, actual undistributed non-labor was lower by \$4.0 million  
19 (100% share, 2014\$). The primary reasons for the lower actual costs were that actual average  
20 staffing levels were less than anticipated in the DCE but were offset by higher than anticipated  
21 DCE costs for supplemental workers, equipment rentals and materials necessary to perform site  
22 operations and maintenance activities.

23           Finally, Mr. Bosch indicates that actual distributed costs for projects in-progress was  
24 \$36.9 million (100% share, 2014\$) lower than the DCE. The primary reasons for the lower costs  
25 were the rescheduling of the Cold and Dark implementation work to 2015 and 2016 and SCE  
26 terminated a fuel contract earlier than forecasted in the DCE.

27           Therefore, based on SDG&E’s review of the 2014 costs billed by SCE, as well as a  
28 comparison provide by SCE of the costs against the 2014 DCE, SDG&E concurs that SCE’s

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<sup>13</sup> SCE-09 at 16.

<sup>14</sup> SCE-09 at 18.

1 SONGS Units 2&3 activities during 2014 were appropriate and that the variances with the 2014  
2 DCE are understandable.

3 **V. REASONABLENESS REVIEW OF 2014 DECOMMISSIONING ACTIVITIES AT**  
4 **SONGS (A. LEVIN)**

5 During 2014, SDG&E recorded a total of \$33.9 million (SDG&E share, 2014\$) for costs  
6 billed by SCE for SONGS 2&3 decommissioning. SDG&E is asking the Commission to find  
7 these costs, as well as the activities underlying the costs, to be reasonable.

8 In addition to the review that SDG&E itself did of the costs billed by SCE in 2014,  
9 described above in Section IV, SDG&E also retained me as a decommissioning industry expert to  
10 conduct a review of the reasonableness of the underlying 2014 activities. Part of my role is to  
11 provide my expert opinion on the reasonableness of decommissioning activities undertaken at  
12 SONGS in the context of the broader nuclear decommissioning industry.<sup>15</sup> The purpose of my  
13 testimony here is to provide my expert opinion regarding the decommissioning activities  
14 undertaken at SONGS during the period January 1, 2014, and December 31, 2014, and whether  
15 they were reasonable in light of nuclear decommissioning industry best practices.

16 During my nearly 40-year career in the commercial nuclear industry, I have participated in  
17 12 major decommissioning projects.<sup>16</sup> I have performed or participated in radiological  
18 characterizations of reactor pressure vessels and internals, historical site assessments, design and  
19 installation of dry cask storage technology, development of radiological release standards,  
20 selection of and contract negotiations with decommissioning operations contractors, and general  
21 oversight of decommissioning projects. While at Exelon Generation Company (“EGC”), my  
22 responsibilities included the safe management of 12,600 metric tonnes of spent nuclear fuel, the  
23 implementation and oversight of dry cask storage for spent nuclear fuel at eight sites,<sup>17</sup> the  
24 development of strategic initiatives to meet EGC’s long-term decommissioning and spent fuel

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<sup>15</sup> I have previously provided both oral and written testimony about decommissioning at SONGS in A.14-12-007. See also Mr. Levin’s testimony submitted in A.16-03-004.

<sup>16</sup> 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.

<sup>17</sup> 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.

1 management needs, and oversight of decommissioning cost estimates and EGC’s \$12 billion  
2 decommissioning liability.<sup>18</sup>

3 The decommissioning of SONGS Units 2&3 continues to proceed in a manner I would  
4 expect based upon my prior and current industry experience. As discussed in further detail  
5 below, I find the activities performed in 2014 are reasonable in my professional opinion, and also  
6 when compared to the conduct of operations at similar, contemporary industry decommissioning  
7 projects.

8 **A. Benchmarking 2014 Decommissioning Activities at SONGS Against Recent**  
9 **Industry Decommissioning Projects**

10 SCE has chosen to immediately dismantle and decontaminate the SONGS site. This  
11 approach to decommissioning is known as “DECON.” The decommissioning process at SONGS  
12 began in 2013. The activities commenced or continued in 2014 at SONGS 2&3 are those  
13 typically expected early in the nuclear plant decommissioning process. Based upon the  
14 information I have reviewed, it is my opinion that SCE continues to execute DECON  
15 decommissioning activities appropriately and in concert with best industry practices. As  
16 discussed in detail below, based upon my observations and experience, I agree with the choice of  
17 work that has been completed at this stage of the project. I believe the 2014 decommissioning  
18 activities at SONGS 2&3 represent what I would expect based upon my prior and current  
19 industry experience. I have recently personally observed similar approaches at other plants  
20 transitioning into and performing early stages of their decommissioning projects.

21 In order to benchmark the 2014 decommissioning activities for SONGS, I have made  
22 comparisons to contemporary activities underway at other recently retired commercial nuclear  
23 plants in the U.S., specifically: Kewaunee Power Station (“Kewaunee”), Crystal River Unit 3  
24 Nuclear Generating Plant (“CR3”), Vermont Yankee Nuclear Power Station (“VY”), and Zion  
25 Nuclear Power Station (“Zion”). Kewaunee and CR3 were retired in 2013, and VY was retired in  
26 2014. Zion was retired in 1998, and after a short period of safe storage, moved into active  
27 decommissioning in 2010.

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<sup>18</sup> In addition, in my roles as Technical Advisor for TLG Services, Inc. (decommissioning cost estimators) and Director, Spent Fuel and Decommissioning, for 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 Of the five (including SONGS) recently-retired nuclear plants, SONGS and Zion are  
2 beginning the DECON immediate dismantlement decommissioning scenario (with Zion waiting  
3 12 years to start). Kewaunee, CR3 and VY have all chosen to enter into a SAFSTOR<sup>19</sup>  
4 decommissioning scenario. In late 2016, Entergy Nuclear Vermont Yankee, LLC (“ENVY”), the  
5 current licensee at VY, announced its intent to sell VY to NorthStar Group Services, Inc.  
6 (“NorthStar”). NorthStar intends to move VY from SAFSTOR to DECON, and begin major  
7 decommissioning activities in late 2018 after ENVY moves all spent nuclear fuel into dry storage  
8 on site. The transaction requires approval by NRC and until that time, VY will remain in  
9 SAFSTOR.

10 Although Kewaunee, CR3 and VY have chosen to enter SAFSTOR, all three have begun  
11 certain major decommissioning activities similar to those in-flight at SONGS, and already  
12 completed at Zion.<sup>20</sup> For commercial nuclear plant decommissioning, both DECON and  
13 SAFSTOR decommissioning have analogous initial activities that must be performed. These  
14 activities include filing all required regulatory documents and studies, moving plant systems,  
15 structures and components into “Cold and Dark” configurations, isolating the spent fuel pool  
16 from the original plant cooling and filtration systems, obtaining a site historical assessment, and  
17 moving spent fuel into dry storage.

18 It is my opinion the activities performed at SONGS in 2014, should be performed early in  
19 decommissioning, and are the most cost-effective ways to manage decommissioning trust fund  
20 assets.

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<sup>19</sup> The SAFSTOR decommissioning scenario is defined by the NRC as having placed the facility “in a safe, stable condition and maintained in that state (safe storage). The facility is decontaminated and dismantled at the end of the storage period to levels that permit license termination.” NRC, Regulatory Guide 1.202: STANDARD FORMAT AND CONTENT OF DECOMMISSIONING COST ESTIMATES FOR NUCLEAR POWER REACTORS, February 2005, at 3.

<sup>20</sup> Since September 2010, decommissioning at Zion Station has made enormous progress. By the end of 2016, all spent nuclear fuel will have been placed into dry cask storage, and all major components – including the reactor vessels, their internals, the steam generators, the pressurizer and the reactor coolant pumps – will have been removed and disposed of. The work remaining at Zion is disposal of the balance of the plant systems and buildings, followed by license termination and site restoration – possibly as early as 2018.

1           **B.     Review of SONGS Units 2&3 Decommissioning Activities Undertaken in**  
2           **2014**

3           During 2014, SCE performed several activities scheduled in the 2014 SONGS Units 2&3  
4 DCE’s DECON Periods 1 & 2, Spent Nuclear Fuel (“SNF”) Periods 1 and 2 and Site Restoration  
5 Period 1 (“SR Period 1”).<sup>21</sup> DECON Period 1 is described in the 2014 DCE as “Transition to  
6 Decommissioning”<sup>22</sup> and DECON Period 2 is described as “Decommissioning Planning and Site  
7 Modifications.” SNF Period 1 is described in the 2014 DCE as “Spent Fuel Transfer  
8 Management Transition” and SNF Period 2 is described as “Spent Fuel Transfer to Dry Storage.”  
9 SR Period 1 is described in the 2014 DCE as “Transition to Site Restoration.” The activities  
10 undertaken in 2014 at SONGS 2&3 reflect the work I would reasonably expect to be performed  
11 at this early stage in the decommissioning process. I have reviewed and found all of the projects  
12 listed in SCE-09 Tables VI-4, VII-5 and VIII-11 to be reasonable to have been underway at  
13 SONGS in 2014. All of these activities have been performed at the other shut down sites and are  
14 reasonably incurred in the course of decommissioning a nuclear power plant.

15           For the reader’s ease, I discuss these activities below in the same categories (distributed -  
16 completed; undistributed; and distributed – in-progress) that SCE discussed them in its testimony  
17 [Ex. SCE-09].

18           **1.     Decommissioning Activities Completed During 2014 (Distributed)**

- 19           •       **Certified Fuel Handler Program (DECON Period 2)** –  
20                   development of a training program for personnel required to  
21                   support handling and storage of spent nuclear fuel, and responsible  
22                   for overall plant safety, at a non-operating reactor facility.<sup>23</sup>

23           With retirement of SONGS and the permanent removal of nuclear fuel from the reactor  
24 vessels, the scope of NRC regulations applicable to site staff responsible for nuclear plant  
25 operations changes dramatically. Licensed reactor operators are no longer required and can be

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<sup>21</sup> Further details regarding activities performed at SONGS in 2014 may be found in A.16-03-004, Ex. SCE-09.

<sup>22</sup> The DCE was submitted to the Commission in a separate SONGS application proceeding, A.14-12-007 in the testimony of SCE at SCE-01 at Appendix A-1. Martin, J.J., *et. al.*, “2014 Decommissioning Cost Analysis of the San Onofre Nuclear Generating Station Units 2 & 3,” Document No. 164001-DCE-001, July 31, 2014, page 32 of 37.

<sup>23</sup> Ex. SCE-09 at 18-19.

1 replaced by individuals appropriately certified to handle spent nuclear fuel and shutdown plant  
2 conditions. Certified Fuel Handlers (“CFH”) remain responsible for safe handling of spent  
3 nuclear fuel and the overall safety of decommissioning activities at the site. A CFH program has  
4 been implemented at Kewaunee, Zion, CR3 and VY, and is a reasonable activity for SONGS.

- 5 • **Post-Fukushima Modifications (SNF Period 2)** – plant  
6 modifications and implementation of lessons learned resulting  
7 from the experience at Fukushima Daiichi.<sup>24</sup>

8 The industry-wide effort to implement lessons learned from the events at Fukushima  
9 affects decommissioning plants. For the retired units, these “lessons learned” required  
10 developing additional strategies for measuring spent fuel pool water level, and establishing  
11 alternate methods for providing water to maintain or restore spent fuel pool cooling. These are  
12 NRC-mandated plant modifications and are therefore reasonable decommissioning activities.

- 13 • **ISFSI Pad Study (SNF Period 2)** – design effort for  
14 implementing dry cask storage at the SONGS site, including the  
15 evaluation of more than one potential dry cask storage location.<sup>25</sup>

16 Each of the benchmark decommissioning plants internally evaluated possible locations  
17 for implementing (Zion and CR3) or expanding (VY and Kewaunee) dry cask storage at their  
18 sites. VY and SONGS were subjected to additional scrutiny and approvals regarding siting for  
19 an expanded (or new) ISFSI pad, due to state regulatory requirements. While VY elected to  
20 perform much of the permitting support work in-house, SONGS elected to have external experts  
21 perform the pad study. Based upon VY’s experience, this activity performed by SONGS in 2014  
22 was a reasonable decommissioning activity.

- 23 • **Spent Fuel Analyses (SNF Period 2)** – the decay heat analysis  
24 and the zirconium fire/shine analysis required by NRC to: (a)  
25 allow for certain modifications to the spent fuel pool cooling  
26 system to be made, (b) support approval of changes to the

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<sup>24</sup> Ex. SCE-09 at 19-20.

<sup>25</sup> Ex. SCE-09 at 20.



1 emergency plan, and (c) support “Cold & Dark” modifications for  
2 the spent fuel island.<sup>26</sup>

3 Part of the justification for retiring from service those systems that are no longer required  
4 for cooling spent fuel pool water is to analytically determine spent fuel decay heat in the spent  
5 fuel pool as a function of time after shutdown. Additionally, to make changes to the emergency  
6 plan, SCE was required to demonstrate in the unlikely event the spent fuel pool lost all water  
7 inventory, actions taken by staff within a certain timeframe would be sufficient to prevent rapid  
8 degradation of spent fuel in the pool, and a radiological release off site.

9 These spent fuel analyses support modifications to the spent fuel pool cooling systems  
10 and changes to the emergency plan. These modifications to SONGS allow significant reductions  
11 in operations and maintenance costs during decommissioning. Kewaunee, CR3, VY and Zion  
12 have all made the same changes and I find SONGS following the same decommissioning  
13 activities to be reasonable.

## 14 2. Support and Overhead Activities During 2014 (Undistributed)

15 I have also reviewed the Support and Overhead (Undistributed) activities which occurred  
16 at SONGS 2 &3 in 2014.

- 17 • **Staffing** – the SONGS utility staff and security force.<sup>27</sup>
- 18 • **Fees, Permits and Leases** – various recurring and unavoidable  
19 fees and other payments required to meet various regulatory,  
20 operational, permitting and contractual requirements.<sup>28</sup>
- 21 • **Plant Operations** – supplies and services required to maintain the  
22 physical facilities including contracted services, health physics  
23 supplies, spent fuel maintenance, security-related expenses, certain  
24 low-level radioactive waste disposal, and decommissioning  
25 advisory services.<sup>29</sup>

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<sup>26</sup> Ex. SCE-09 at 20-21.

<sup>27</sup> Ex. SCE-09 at 23-24.

<sup>28</sup> Ex. SCE-09 at 25-30.

<sup>29</sup> Ex. SCE-09 at 30-36.

- **Other Non-Labor** – information technology, energy, severance, property taxes, the Community Engagement Panel, insurances and utilities.<sup>30</sup>

These activities generally represent those necessary to maintain an NRC-licensed nuclear power plant, to meet all NRC license conditions, and to meet locally-imposed requirements of plant ownership. Additionally, external support in the form of legal, consulting and other expertise are necessary to develop effective plans for decommissioning the site. I find these Undistributed activities to be similar to those occurring at other decommissioning nuclear plants, and reasonable to perform at SONGS.

### **3. Decommissioning Activities In-Progress During 2014 (Distributed)**

- **“Cold and Dark” (DECON Period 2)** – depressurizing, draining and de-energizing non-essential systems, and placing all systems, structures and components in configurations safe to begin decommissioning activities.<sup>31</sup>

During “Cold and Dark,” temporary power, ventilation, fire protection and communications equipment are installed to facilitate decommissioning activities. There are two major subtasks under the “Cold and Dark” task:

- i. Spent fuel pool isolation; providing independent cooling and filtration systems.
- ii. Installation of a temporary power ring to provide redundant offsite power for decommissioning.

The “Cold and Dark” modifications began in earnest in 2014. This important activity is prudent to begin as soon as practicable to reduce the number of plant systems required to be maintained throughout the decommissioning process. By de-energizing, depressurizing and draining unneeded plant systems, SCE also reduced the risk of inadvertent cross-contamination and personnel hazards at the site. The modifications also include the installation of temporary systems and electrical power to facilitate the decommissioning process.

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<sup>30</sup> Ex. SCE-09 at 36-42.

<sup>31</sup> Ex. SCE-09 at 43-44.

1 Kewaunee, VY and CR3 performed “Cold and Dark” modifications consistent with their  
2 approach towards SAFSTOR decommissioning (i.e., limiting the amount of modifications made  
3 to support immediate decommissioning work inside the plant). Zion had made the same  
4 SAFSTOR modifications when it was retired in 1998. Late in 2010, as Zion exited SAFSTOR  
5 and entered DECON, additional “Cold and Dark” modifications were made – like those at  
6 SONGS –to facilitate immediate dismantlement of the plant. Similar modifications are  
7 anticipated at VY once the sale transaction to NorthStar is complete and decommissioning  
8 begins sometime in late 2018. The 2014 activities executed by SONGS to bring the plant into a  
9 “Cold and Dark” condition, anticipating the immediate dismantlement of the plant, are  
10 reasonable as shown by other units in (or shortly to be in) DECON decommissioning.

- 11 • **Legacy Radwaste Disposal (DECON Periods 1 and 2)** –  
12 disposition of any Low Level Radioactive Waste (LLRW) created  
13 during the operating lifetime of the units.

14 The decommissioning activities in 2014 include Legacy Radwaste Disposal. Legacy  
15 radwaste disposal is an activity which has been typically performed early in the  
16 decommissioning process at other decommissioning sites. Kewaunee, CR3, Zion and VY are all  
17 planning or have already performed disposition of legacy LLRW. For example, CR3’s aggressive  
18 disposal of legacy radwaste included retired steam generators, a reactor vessel closure head and  
19 hot leg piping. While the scope of such a project is subject to site conditions and other  
20 considerations, it is characteristic for decommissioning sites to perform at least some level of  
21 legacy radwaste disposal. This activity is considered a reasonable task in the decommissioning  
22 process.

- 23 • **Nuclear Fuel Contract Cancellation (SR Period 1)**<sup>32</sup> –  
24 cancellation of uranium procurement, enrichment and fuel  
25 fabrication of new fuel assemblies for fuel cycles beyond the  
26 retirement date.<sup>33</sup>

27 SCE proceeded with the cancellation of agreements for uranium procurement, enrichment  
28 and fuel fabrication of new fuel assemblies – an activity made necessary by the unscheduled,

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<sup>32</sup> The reasonableness of the nuclear fuel contract cancellation costs that SDG&E recorded in 2014 is the subject of SDGE-06.

<sup>33</sup> A.16-03-004, Ex. SCE-09 at 46.

1 early retirement. Services for the procurement, enrichment and fuel fabrication of new fuel  
2 assemblies have long lead times associated with them. SCE's decision to retire SONGS Units  
3 2&3 early did not allow the opportunity to terminate these contracts without financial risk. Zion  
4 and CR3 also retired prematurely, and both sites had fresh nuclear fuel in the spent fuel pool  
5 awaiting insertion into the reactor core at the next refueling outage. Shortly after shutdown  
6 (Zion in 1998 and CR3 in 2013), both plant owners moved quickly to sell their new fuel on site  
7 and cancel all nuclear fuel related contracts.

8 Therefore, in my professional opinion, it was reasonable for SCE to attempt to cancel the  
9 nuclear fuel contracts to mitigate costs associated with unneeded services.

- 10 • **Historical Site Assessment and Site Characterization (DECON**  
11 **Period 2 and SR Period 4)** – a study to assess and document  
12 radiological and hazardous material contamination and spills  
13 which occurred during the operating lifetime, and to demonstrate  
14 areas of the site assumed to be unaffected by operations, remain  
15 uncontaminated.<sup>34</sup>

16 The Historical Site Assessment is required to obtain the data necessary for SCE to  
17 demonstrate compliance now and in the future, with NRC site release criteria. A portion of the  
18 Historical Site Assessment was performed for the overall SONGS site, including the Mesa site  
19 and facilities east of Interstate 5 (both of which are outside of the NRC licensed areas). See  
20 below for my additional comments on the Mesa Site Restoration activity.

21 For Zion, CR3 and VY, the HSA was commissioned within the first year after shutdown  
22 (at VY, work on the HSA began prior to shutdown). These sites recognized the necessity of and  
23 benefits from performing a HSA, and performing it while personnel familiar with the operating  
24 history of the site are readily accessible. SCE has opted to do this activity for SONGS close to  
25 the plant's retirement. I consider this to be a reasonable activity.

- 26 • **Independent Spent Fuel Storage Installation (SNF Periods 1**  
27 **and 2)** – planning, design and implementation of additional dry

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<sup>34</sup> Ex. SCE-09 at 46-47.

1 cask storage on site, including the selection of a dry cask storage  
2 vendor.<sup>35</sup>

3 During 2014, SCE completed several dry-cask-storage-related activities. These activities  
4 included both analyses for managing spent nuclear fuel and preparation for dry cask storage, and  
5 implementation of the dry cask storage management program. Initial activities included the  
6 requisite studies to site the ISFSI, determine what modifications to the spent fuel pool were  
7 required in the interim until dry cask storage was fully implemented, and to support changes in  
8 the emergency plan.

9 The selection process for a dry cask storage vendor was completed in 2014. The selected  
10 vendor, Holtec, will be responsible for providing design, fabrication and construction services dry  
11 cask storage systems, expand the ISFSI, and provide certain services to move spent fuel out of the  
12 spent fuel pools into dry storage.

13 Based on my industry experience, Holtec is one of three vendors I would rely upon for  
14 providing dry cask storage systems; the others are AREVA and NAC International. I have  
15 worked with all three in the past (during my tenure at Exelon), and find that technically, any one  
16 of them can provide safe and reliable systems for spent fuel storage and ultimate transportation off  
17 site. Given the lack of space for an ISFSI at SONGS, the proximity of the storage location to  
18 public land, and the proposed below-grade placement, Holtec is a reasonable choice. Holtec  
19 began implementation work in 2014.

20 The decision to move spent fuel into dry storage early in the decommissioning project is  
21 beneficial both financially to the trust funds and in safety during decommissioning for the plant  
22 staff. Maintaining spent fuel in the fuel pools during decommissioning has several distinct  
23 disadvantages:

24 1. Maintaining spent fuel in the pools until DOE can accept it for disposition is  
25 costly. A much larger site security force and several additional plant personnel (in maintenance,  
26 engineering and operations) would be required to keep spent fuel in the pools at SONGS. The  
27 additional cost is approximately \$20 million to \$30 million per year to keep spent fuel in the  
28 pools compared to maintaining it in dry cask storage. If spent fuel is anticipated to remain on site  
29 for more than 15 years, the life cycle costs for dry storage are typically more favorable.

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<sup>35</sup> Ex. SCE-09 at 47-48.

1           2. Negative impact upon decommissioning schedule. With spent fuel remaining in the  
2 spent fuel pools, decommissioning would have to proceed around the spent fuel pools. Only after  
3 the DOE completed its acceptance all spent fuel from the SONGS site could the pool facilities be  
4 decommissioned. This decommissioning scenario would lengthen the overall decommissioning  
5 schedule by several years.

6           3. Occupational health and safety. While both spent fuel pool storage and dry cask  
7 storage provide reasonable assurance of public health and safety, decontamination and demolition  
8 activities result in a somewhat greater risk of spent fuel damage if the fuel remains in the pools.  
9 Moving spent fuel into dry storage – away from decommissioning activities – mitigates this risk.

10           Regardless of selecting the DECON or SAFSTOR decommissioning scenario, the  
11 benchmark decommissioning plants Kewaunee, CR3, VY and Zion all chose to move spent fuel  
12 into dry cask storage early in the decommissioning process – for the very same reasons identified  
13 by SONGS as explained above. Although others chose different storage technologies and/or  
14 different vendors, the result for all of these sites will be, or has been, a marked reduction in  
15 annual operating expenses. The decision to move spent nuclear fuel into dry storage is  
16 reasonable, and consistent with industry best practices.

- 17                   •       **Mesa Site Restoration (SR Period 1)** – clean demolition of  
18                               unused facilities and structures at the Mesa Site and return of the  
19                               site back to the Department of the Navy.<sup>36</sup>

20           One primary early goal in all decommissioning projects is to “shrink” the footprint of the  
21 plant site by releasing for unrestricted use any land and facilities utilized during plant operations.  
22 This is done for two reasons: (a) to prevent the migration of radiological and hazardous material  
23 that could lead to contamination to areas previously unaffected, and (b) to control site security  
24 costs.

25           The Mesa site, part of Marine Corps Base Camp Pendleton and under the control of the  
26 Department of the Navy, was leased to SCE for the provision of maintenance, repair and  
27 emergency services to SONGS during operations. The Mesa also housed SCE’s administration  
28 facilities. While it was anticipated that no radiological and/or hazardous material would be found

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<sup>36</sup> Ex. SCE-09 at 48.

1 at the Mesa site, it remains the responsibility of SCE to demonstrate the Mesa site is free of  
2 contaminants.

3 To do so, SCE moved all of its activities off of the Mesa site, and included the Mesa site  
4 in the Historical Site Assessment, in preparation of releasing the land back to the Navy. SCE then  
5 proceeded with the early demolition of facilities no longer used by SCE or the Navy. Although  
6 the demolition of facilities at the Mesa site were scheduled for later in the decommissioning  
7 project, the early demolition helped SCE reduce long-term costs associated with the operating  
8 expenses for maintaining those facilities.

9 VY, Zion and CR3 all performed similar activities – removing facilities that either  
10 reduced the site footprint, which eliminated cross-contamination risk, or cleared the way for  
11 other decommissioning activities, early in their decommissioning activities. I find SCE’s  
12 decision to pursue Mesa remediation activities at SONGS to have considerable merit, and I find  
13 them to be reasonable activities to perform at this juncture in the decommissioning process.

- 14 • **Regulatory Submittals (DECON Period 2)** – NRC  
15 documentation, submitted in accordance with regulatory  
16 requirements.<sup>37</sup>

17 During 2014, SCE submitted several documents required by the NRC as a direct result of  
18 the SONGS’ retirement, and several that were required based upon operating changes  
19 contemplated by SCE. The NRC regulatory submissions filed by SCE in 2014 mirror those filed  
20 by other decommissioning sites early in their project timelines. The submissions to the NRC  
21 included:

- 22 a. Post-Shutdown Decommissioning Activities Report  
23 (“PSDAR”)
- 24 b. Decommissioning Cost Estimate (2014 DCE)
- 25 c. Irradiated Fuel Management Plan (“IFMP”)
- 26 d. Post-Shutdown Emergency Plan
- 27 e. Post-Shutdown Technical Specifications
- 28 f. Post-Shutdown Security Plan
- 29 g. Post-Shutdown Quality Assurance Plan

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<sup>37</sup> Ex. SCE-09 at 49.

1           These regulatory submittals were either required early in the decommissioning process  
2 (such as the DCE, PSDAR and IFMP), or were appropriate to submit in 2014 based on where  
3 SONGS was in the decommissioning process. The benchmark decommissioning sites all made  
4 the same submissions to NRC in approximately the same timeframe SONGS did after  
5 shutdown.<sup>38</sup> I consider SCE’s activities to file NRC-required and necessary filings to be  
6 reasonable.

- 7                   •       **Security Program (DECON Period 2 and SNF Period 1)** –  
8                               modifications required to the physical security and cyber security  
9                               programs reflecting the shutdown condition of the plant.<sup>39</sup>

10           NRC allows licensees to make changes – without prior NRC approval – to the physical  
11 and cyber security programs if the changes do not decrease the effectiveness of a physical  
12 security plan, security force training and qualification plan, or safeguards contingency plan. SCE  
13 submitted the proposed site security changes to NRC in 2014.

14           With nuclear fuel no longer in the reactor and certain plant systems considered “safety-  
15 related” no longer requiring physical protection, the security strategy changes at a retired plant  
16 site. The updated plans also allow for removal of temporary physical facilities. However, they  
17 also require physical modifications (such as vehicle barriers) to remain on site to provide  
18 effective security, but allows them to be moved such that the footprint of the protected area may  
19 be reduced.

20           Overall, implementing these security changes lowers annual operation and maintenance  
21 costs at a retired plant site. Zion, VY, CR3 and Kewaunee have all taken advantage of the NRC-  
22 allowable security plan changes to help reduce expenses. This activity for SONGS is considered  
23 a reasonable activity for the same reason.

- 24                   •       **Decommissioning General Contractor (DECON Period 2)** –  
25                               development of the Request for Quotation (“RFQ”) for a  
26                               Decommissioning General Contractor (“DGC”).

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<sup>38</sup> Note that when Zion retired in 1998, some of these regulatory submissions were not required. When ZionSolutions took over the site from Exelon in 2010, they completed the remaining, required submissions.

<sup>39</sup> Ex. SCE-09 at 49-50.



1 One major activity performed in 2014 at SONGS 2&3 which differs from other  
2 decommissioning sites is the development of a request for quotation and associated actions to  
3 bring on board a DGC. This activity was necessary and timely to allow SCE to select a DGC  
4 and move as soon as practicable into immediate dismantlement activities. SCE's efforts in 2014  
5 for this activity included a canvassing effort to determine interest, down-selecting candidates to  
6 those who are qualified, and preparation of a work bid package. Based upon the site-specific  
7 need for this activity, I find it to be reasonable.

### 8 **C. Conclusions**

9 It is my understanding that SCE personnel selected these 2014 activities through industry  
10 benchmarking as being the best practices with respect to occupational and public health and  
11 safety, and minimizing total project cost. I have recently personally observed similar approaches  
12 at other plants transitioning into and performing early stages of their decommissioning projects –  
13 including Zion, CR3, Kewaunee and VY.

14 Based upon my observations and experience, I agree with the choice of work to be  
15 performed at this stage of the project. I believe the 2014 decommissioning activities at SONGS  
16 2&3 represent what I would expect based upon my prior and current industry experience. I find  
17 the activities performed in 2014 to be reasonable when compared to the conduct of operations at  
18 similar, contemporary industry decommissioning projects.

### 19 **VI. SDG&E-ONLY COSTS INCURRED IN 2014 ARE REASONABLE (S. GARCIA)**

20 In 2014, SDG&E incurred SDG&E-only costs of \$3.7 million (2014\$) specifically  
21 related to decommissioning SONGS Units 2&3. SDG&E was responsible for and paid 100% of  
22 these costs and they were not billed to SDG&E by SCE nor were they shared by SCE. These  
23 costs are organized into two high-level categories: labor and non-labor. Labor refers to SDG&E  
24 internal labor. Non-labor has several components including consulting, outside legal, property  
25 taxes, and "other non-labor costs".<sup>40</sup>

26 Shown below in Table 3 are SDG&E's actual internal costs for Units 2&3 for 2014, in  
27 2014\$, compared to the DCE estimate, in 2014\$, of SDG&E's internal costs.  
28

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<sup>40</sup> "Other non-labor" costs include employee expenses and lease payments.

**Table 3**  
**Comparison of SDG&E 2014 Recorded SDG&E Only Costs to the 2014 DCE**  
**(2014\$ in millions)**

	Category	DCE <sup>41</sup>	Recorded <sup>42</sup>	Variance
1	<b>Labor</b>	<b>0.7</b>	<b>0.6</b>	<b>0.1</b>
2				
3	<b>Non-Labor</b>			
4	Consultant and Outside Legal	0.7	0.5	0.2
5	Property Tax	0.4	2.6	(2.2)
6	Other Non-Labor Costs	0.0	0.0	0.0
7	<b>Subtotal</b>	<b>1.1</b>	<b>3.1</b>	<b>(2.0)</b>
8				
9	<b>Total SDG&amp;E Only Costs</b>	<b>1.8</b>	<b>3.7</b>	<b>(1.9)</b>

SDG&E respectfully requests that the Commission find that SDG&E’s total for SDG&E-only SONGS decommissioning costs of \$3.7 million (2014\$) for 2014 are reasonable.

**A. SDG&E Labor Costs**

In 2014, SDG&E incurred labor costs of \$0.6 million (2014\$) for its role in overseeing and reviewing activities at the plant. Additional detail on SDG&E’s oversight and fiscal management roles are provided in Section III. B. above.

In 2014, SDG&E had three SONGS Team employees: a manager (who worked on SONGS issues on a part-time basis), an on-site representative and a budget analyst dedicated to working on decommissioning and oversight activities related to SONGS.

Many of SDG&E’s labor oversight efforts during decommissioning were very similar to its efforts during operations. For example, SDG&E continued to retain a site representative at the SONGS worksite to review day-to-day decommissioning activities and progress, and provide contact and interaction with SONGS decommissioning management and personnel. The manager attended many executive level meetings at SONGS.

SDG&E also continued to retain a budget analyst to review invoices and track expenditures against SCE-internal budgets and the DCE estimates. Because the new decommissioning accounting system was not yet in place in 2014, the invoices that SDG&E received were in the same format and contained the same level of detail as the invoices from

<sup>41</sup> These estimates include pensions and benefits, other labor loaders and purchasing overheads.

<sup>42</sup> These numbers include pensions and benefits, other labor loaders and purchasing overheads.

1 SONGS operational period. The budget analyst reviewed the invoices for reasonableness and  
2 accuracy prior to SDG&E management approving the invoice for payment.

3 In 2014, the SDG&E SONGS Team also monitored project budget variance reporting at  
4 SONGS related to the Cold and Dark initiative and the Independent Spent Fuel Storage  
5 Installation. The SDG&E SONGS team also assisted with the fulfillment of regulatory and legal  
6 reporting requirements, ad hoc analysis of various proposals, and coordination with outside legal  
7 and nuclear experts as needed.

8 As shown in Table 3 above, SDG&E-only internal labor costs in 2014 were slightly  
9 lower, \$0.1 million (2014\$) than what was forecasted in the 2014 DCE. Actual labor expense  
10 was lower due to a slight decrease in the amount of time the employees worked on SONGS  
11 decommissioning compared to the employees forecasted in the 2014 DCE.

## 12 **B. SDG&E Non-Labor Costs**

13 In 2014, SDG&E incurred non-labor of \$3.1 million (2014\$) for decommissioning and  
14 oversight activities.

### 15 **1. Consultant**

16 To supplement its decommissioning oversight, SDG&E retained an external nuclear plant  
17 decommissioning consultant (Mr. Levin) to provide an independent assessment of SCE's  
18 decommissioning activities. SDG&E incurred \$0.1 million (2014\$) of costs related to Mr.  
19 Levin's consulting services. Because of Mr. Levin's extensive industry knowledge and previous  
20 experience with decommissioning, SDG&E finds it was appropriate to use Mr. Levin's services  
21 as SDG&E's industry expert in 2014.

### 22 **2. Outside Legal**

23 SDG&E retained outside legal counsel to provide expert advice and assistance during the  
24 drafting of the SONGS Decommissioning Agreement and other decommissioning issues related  
25 to state and federal decommissioning requirements. SDG&E incurred a total of \$0.4 million  
26 (2014\$) in costs associated with outside legal expenses.

27 The actual non-labor costs for consultants and outside legal compared to the 2014 DCE  
28 forecasted non-labor cost for consultants and outside legal was lower by \$0.2 million (2014\$).  
29 The variance is due to lower consultant and outside legal costs than what was anticipated when  
30 the forecast was created.

1                                   **3.     Property Taxes**

2                   SDG&E paid property taxes related to SONGS of \$2.6 million (2014\$) in 2014. SDG&E  
3 property taxes related to its ownership in SONGS are assessed by the California State Board of  
4 Equalization and allocated to the various counties where SDG&E property is located. The  
5 variance of \$2.2 million (2014\$) between the actual amounts paid and the 2014 DCE estimates in  
6 Table 3 are a result of a lower estimate in the 2014 DCE being included because SDG&E  
7 anticipated a reduction in the assessment of the SONGS property when SONGS changed from an  
8 operating plant to a decommissioning plant site. However, the property was not reassessed lower  
9 to the extent anticipated by SCE and SDG&E during the DCE drafting process and, therefore,  
10 there is a variance between actual costs and the 2014 DCE.

1 **WITNESS QUALIFICATIONS FOR SUE E. GARCIA**

2 My name is Sue E. Garcia. My business address is 8315 Century Park Court, San Diego,  
3 CA 92123. I am employed by SDG&E as the Manager – Nuclear Decommissioning,  
4 responsible for the oversight and management of SDG&E’s interest in the decommissioning of  
5 the San Onofre Nuclear Generation Station. Previously I was the Manager - Settlements and  
6 Systems in the Electric and Fuel Procurement Department. My duties included the settlements  
7 of all electric and fuel commodity transactions as well as the management and administration of  
8 existing power purchase agreements. I have been employed by SDG&E since 1995. I have been  
9 in my current position since March 2016.

10 I received a B.S. in Business Administration, with an Accounting emphasis, from San  
11 Diego State University. I am a Certified Public Accountant and a Certified Internal Auditor.

12 I have previously testified before this Commission.

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 Energy Solutions, LLC, as well as being a SDG&E Decommissioning Advisor. Additionally, I  
10 am providing consulting services to the Department of Energy (“DOE”), Office of Nuclear  
11 Energy (“DOE-NE”), where I currently support several activities of the Office of Integrated  
12 Waste Management, under DOE-Nuclear Energy. The Office of Integrated Waste Management  
13 is 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.