

**BEFORE THE
CALIFORNIA PUBLIC UTILITIES COMMISSION**

**Application of Southern California Edison Company)
(U338E) for Authorization (1) to Replace San Onofre)
Nuclear Generating Station Unit Nos. 2 & 3 (SONGS 2)
& 3) Steam Generators; (2) Establish Ratemaking for)
Cost Recovery; and (3) Address Other Related Steam)
Generator Replacement Issues.**

**Application No.
04-02-026**

**Supplemental Testimony of
David A. Schlissel
Synapse Energy Economics, Inc.**

**On Behalf of
The Utility Reform Network**

**PUBLIC VERSION
Protected Materials Redacted**

January 7, 2005

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1 **Q. Please state your name, position and business address.**

2 A. My name is David A. Schlissel. I am a Senior Consultant at Synapse Energy
3 Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

4 **Q. On whose behalf are you testifying in this case?**

5 A. I am testifying on behalf of The Utility Reform Network (“TURN”).

6 **Q. Have you previously submitted testimony in this proceeding?**

7 A. Yes. I submitted Direct Testimony on December 13, 2004.

8 **Q. What is the purpose of this Supplemental Testimony?**

9 A. The purpose of this Supplemental Testimony is to address discovery responses
10 that have been provided to TURN by Southern California Edison (“SCE” or “the
11 Company”) and San Diego Gas & Electric (“SDG&E”) since I drafted my Direct
12 Testimony.

13 **Q. When were the NSSS Acceptance Tests for SONGS 2 and 3 completed?**

14 A. SCE has stated that the NSSS Acceptance Tests for the SONGS 2 and 3 NSSS
15 were completed on August 8, 1983 and March 27, 1984.¹

16 [REDACTED] the specific steam generator
17 warranties contained in the SONGS 2 and 3 NSSS contract with Combustion
18 Engineering expired in [] for SONGS 2 and [] for SONGS 3.

¹ SCE response to Data Request Set TURN-SCE-05, Question 3.

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1 **Q. You testified in your Direct Testimony that SCE had not provided any**
2 **analyses or other assessments showing that the 1987 settlement agreement**
3 **and the broad release it granted to Combustion Engineering for future**
4 **claims related to the steam generators and fourteen other components were**
5 **reasonable.² Has SCE subsequently provided any other information or**
6 **analyses showing that the 1987 settlement agreement and/or the broad**
7 **release it contained were reasonable?**

8 A. No. SCE has not provided any more information or assessments showing that the
9 December 1987 settlement agreement and/or its release of Combustion
10 Engineering were reasonable.

11 For example, as I noted in my Direct Testimony, correspondence from SCE to
12 Combustion Engineering indicated that as of August 1985, SCE had incurred
13 approximately \$5 million in costs resulting from steam generator tube problems at
14 SONGS 2 and 3.³ However, the value of the compensation that SCE received
15 from Combustion Engineering as part of the December 1987 settlement
16 agreement was substantially lower than \$5 million. TURN asked SCE to identify
17 each factor or circumstance which led SCE to settle for less compensation from
18 Combustion Engineering in the December 1987 settlement than SCE had said that
19 it had incurred as a result of the steam generator tube problems. SCE refused to
20 answer this question on the grounds that it sought information protected by the
21 attorney-client privilege and the work product doctrine.⁴

22 TURN also requested that SCE provide copies of the analyses, reports, studies
23 and correspondence which formed the basis for its decision to settle for

² Direct Testimony of David A. Schlissel, dated December 13, 2004, at page 26, line 19, through page 27, line 11.

³ Direct Testimony of David A. Schlissel, dated December 13, 2004, at page 24, line 1, to page 25, line 2.

⁴ SCE response to Data Request Set TURN-SCE-05, Question 008.a. A copy of this response is included as Exhibit ___DAS-27.

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1 compensation for the specific compensation from Combustion Engineering
2 provided in the December 1987 settlement. SCE again objected to providing the
3 requested information because it sought information protected by the attorney-
4 client privilege and the work product doctrine.⁵

5 SCE's response to Data Request Set TURN-SCE-05, Question 008 also claimed
6 that the Company had previously produced non-privileged documents in its
7 possession that were responsive to this request. However, my review of the
8 documents provided by SCE has not identified any analyses, reports, studies or
9 correspondence which explained or identified the reasons why SCE decided to
10 settle for less compensation from Combustion Engineering as part of the
11 December 1987 settlement.

12 **Q. You testified in your Direct Testimony that there appeared to be a 22 month**
13 **gap, between March 1986 and late 1987, in the materials that had been**
14 **provided to TURN by SCE concerning the negotiations and discussions with**
15 **Combustion Engineering over steam generator related problems at SONGS 2**
16 **and 3.⁶ Has SCE subsequently provided any additional materials from this**
17 **time period related to its negotiations and discussions with Combustion**
18 **Engineering?**

19 A. No. SCE told the other SONGS owners in October 1987 that "continuous
20 negotiations [had] been held with C-E to determine proper responsibility for costs
21 associated with correction of the problems related to the steam generator and
22 income instrumentation thimbles."⁷ However, SCE has been unable to provide to
23 TURN any correspondence between the Company and Combustion Engineering
24 during the period March 1986 and December 1987 which was the 22 month

⁵ SCE response to Data Request Set TURN-SCE-05, Question 008.b. A copy of this response is included as Exhibit ___ DAS-27.

⁶ Direct Testimony of David A. Schlissel, dated December 13, 2004, at page 23, lines 18-22.

⁷ Minutes of the SONGS Board of Review Meeting held on October 20, 1987.

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1 period immediately prior to the date when SCE entered into the agreement with
2 Combustion Engineering.

3 In particular, Data Request TURN-SCE-05 Question 002 noted that there had
4 been significant gap in the materials that SCE had previous provided to TURN
5 and, therefore, specifically requested that SCE provide the following materials:

- 6 ▪ Copies of all correspondence between SCE and Combustion Engineering
7 between January 1, 1986 and December 31, 1987 which addressed the on-
8 going communications, negotiations or discussions between the two
9 companies over steam generator related issues and costs at SONGS Units
10 2 and 3.
- 11 ▪ Copies of any notes, minutes, transcripts of any meetings, other
12 discussions or telephone calls between SCE and Combustion Engineering
13 between January 1, 1985 and December 31, 1987 which addressed the on-
14 going communications, negotiations or discussions between the two
15 companies over steam generator related issues and costs at SONGS Units
16 2 and 3.⁸

17 SCE's response indicated that the Company had already provided the requested
18 correspondence between the two companies during the specified months.⁹
19 However, contrary to SCE's claim, I believe that SCE still has not provided any
20 correspondence from the 22 month period immediately preceding the execution of
21 the settlement with Combustion Engineering.

22 SCE also objected to providing any of the meeting or discussion notes
23 requested by TURN on the ground that the request sought information protected
24 by the attorney-client privilege and the work product doctrine.¹⁰ SCE further
25 noted that it had previously provided non-privileged documents in its possession
26 responsive to this request. Again, however, I believe that SCE still has not

⁸ Data Request Set TURN-SCE-05, Questions 002.c. and d.

⁹ SCE response to Data Request Set TURN-SCE-05, Question 002.c. A copy of this response is included as Exhibit ___DAS-28.

¹⁰ Exhibit ___DAS-28.

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1 provided any meeting or discussion notes from the 22 month period immediately
2 preceding the execution of the settlement with Combustion Engineering.

3 **Q. Has SCE quantified the benefits that it has received from the December 1987**
4 **settlement with Combustion Engineering?**

5 A. No. SCE's recent response to Data Request TURN-SCE-05, Question 002.h,
6 stated that to date the Company had not been able to quantify all of the value
7 received from the December 1987 settlement. SCE said that work was continuing
8 on this matter and that SCE would update its response when it was able to
9 complete this effort. However, I have not received any such update as of January
10 7, 2005.

11 **Q. Were the terms of the December 1987 settlement agreement between SCE**
12 **and Combustion Engineering approved by the CPUC?**

13 A. No. SCE has said, in its opinion, there is no requirement that the CPUC review
14 and approve settlements between SCE and its vendors.¹¹

15 **Q. You have testified that the SONGS units were not designed to allow the**
16 **replacement of the steam generators.¹² Has SCE stated whether the fact that**
17 **the SONGS 2 and 3 containment and internal structures were not designed**
18 **to accommodate steam generator replacement was a conscious decision by**
19 **SCE and/or the architect engineer?**

20 A. Yes. SCE has said that plant layout decisions, including consideration of
21 provisions for steam generator replacement, were made during the design
22 process.¹³ This indicates that a conscious decision was made to not design
23 SONGS 2 and 3 to allow for steam generator replacement. This suggests that
24 SCE was relying on Combustion Engineering's statements that the SONGS 2 and

¹¹ Exhibit ___ DAS-28.

¹² Direct Testimony of David A. Schlissel, dated December 13, 2004, at page 29, lines 15-18.

¹³ SCE response to Data Request Set TURN-SCE-02, Question 056.a.

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1 3 NSSS had a specified design life of 40 years and that all NSSS equipment and
2 components not easily replaced or repaired would be capable of performing their
3 intended functions throughout that forty year period without more than routine
4 maintenance.

5 **Q. Have you seen any documents that suggest that SCE personnel were**
6 **concerned about the lack of any provision in the plant design for replacing**
7 **any substantial section of the SONGS 2 and 3 steam generators?**

8 A. Yes. A July 2, 1974 SCE memorandum noted that the Company’s Steam
9 Generation division had reviewed the proposed general arrangement for SONGS
10 2 and 3 and was concerned that there was no provision for removal and
11 replacement of a steam generator tube bundle. According to the memorandum,
12 “Steam Generation feels that such consideration should be made in the plant
13 design.”¹⁴ However, it is unclear what action, if any, was taken to address this
14 concern.

15 **Q. Have you seen any evidence that SCE relied on projected 40-year service**
16 **lives for the SONGS 2 and 3 NSSS in filings to the U.S. Nuclear Regulatory**
17 **Commission?**

18 A. Yes. SDG&E’s April 2004 Complaint seeking a judicial determination that the
19 deterioration of the SONGS Units 2 and 3 steam generators constitutes an
20 Operating Impairment under the Second Amended San Onofre Operating
21 Agreement stated that:

22 SONGS Units 2 and 3 began operating in 1983 and 1984,
23 respectively. SONGS Units 2 and 3 use steam generators to
24 convert heat from each Unit’s nuclear reactor into steam for the
25 production of electricity. These steam generators had an original
26 life expectancy of 40 years. SONGS Units 2 and 3 were not
27 designed with an expectation that these steam generators would
28 need to be replaced during this life expectancy period. EDISON,
29 for example, stated in its February 22, 2000 application to the

¹⁴ Attachment to SCE response to Data Request Set TURN-SCE-02, Question 056.b.

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1 Nuclear Regulatory Commission for extension of the SONGS
2 Units 2 and 3 operating licenses from 2013 to 2022 that “SONGS
3 Units 2 and 3 were designed, licensed and constructed for 40 years
4 of operation....”

5 **Q. Your Direct Testimony discussed the settlement that Arizona Public Service**
6 **Company reached with Combustion Engineering regarding steam generator**
7 **tube degradation at the Palo Verde Nuclear Generating Station.¹⁵ Have you**
8 **received any additional information from SCE since you filed your Direct**
9 **Testimony concerning the claims that led to this settlement?**

10 A. Yes. SCE has very recently provided a copy of an October 26, 1995 letter that
11 APS’s outside counsel submitted to Combustion Engineering regarding steam
12 generator related defects at Palo Verde. A copy of this letter is attached as
13 Exhibit ___DAS-29. This letter describes in detail the claims that APS intended
14 to bring against Combustion Engineering on behalf of the Arizona Nuclear Power
15 Project (“ANPP”) if a settlement was not reached. SCE is one of the owners of
16 ANPP.

17 **Q. Before describing the claims raised by APS in this October 1995 letter, please**
18 **explain whether the Palo Verde steam generators are identical to those at**
19 **SONGS 2 and 3.**

20 A. The Palo Verde steam generators are not identical to those at SONGS 2 and 3.
21 The Palo Verde steam generators have higher thermal power ratings, a higher
22 operating temperature, longer tubes, and thinner tube walls.

23 However, the claims raised by APS are relevant to SONGS 2 and 3 because (1)
24 the original Palo Verde steam generators had Alloy 600 tubes; (2) SCE is one of
25 the owners of Palo Verde; (3) like SONGS 2 and 3, the Palo Verde NSSS’s were
26 provided by Combustion Engineering; and (4) as I will explain below, the breach
27 of warranty claim that APS threatened to litigate against Combustion Engineering

¹⁵ Direct Testimony of David A. Schlissel, dated December 13, 2004, at page 19, line 14, to page 20, line 23.

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1 on behalf of ANPP was based on language in the NSSS contract that affirmed that
2 the Palo Verde NSSS would have a specified design life.

3 [REDACTED]

4 **Q. What was the operating life specified in the Palo Verde NSSS contract with**
5 **Combustion Engineering?**

6 A. APS's October 26, 1995 letter explained that the Palo Verde contract with
7 Combustion Engineering contained language that each Palo Verde NSSS would
8 have a useful operating lifetime of at least 40 years:

9 Critically important to project personnel involved in the evaluation
10 of the proposals submitted by CE and other vendors, including
11 E.E. Van Brunt, Jr., ANPP's Project Director, were the vendors'
12 respective representations of the operating life for which the
13 offered units allegedly had been designed. ANPP insisted that the
14 Contract contain an assurance by the vendor that the NSSS's
15 would be designed to provide a useful operating lifetime of at least
16 40 years. In the final version of the Contract [with Combustion
17 Engineering], that absolutely essential element was found in
18 Appendix B, where CE represented and affirmed that each NSSS
19 furnished under the Contract would be designed "to have a useful
20 operating lifetime of at least 40 years."¹⁶

21 **Q. What specific claims did APS threaten to litigate on behalf of the Palo Verde**
22 **owners if Combustion Engineering did not agree to settle the issue?**

23 A. APS's October 26, 1995 letter to Combustion Engineering noted that the Palo
24 Verde owners intended to litigate (1) a breach of warranty claim; (2) a claim that
25 Combustion Engineering committed fraud and breached the covenants of good
26 faith and fair dealing, both in inducing the owners to enter into the contract by
27 fraudulent misrepresentations and through post-contract fraud; and (3) a claim
28 that the actions of Combustion Engineering constituted "willful action" under the
29 terms of the Palo Verde NSSS contract.

¹⁶ Exhibit ___ DAS-29, at page 3.

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1 **Q. What was the basis for the breach of warranty claim that APS threatened to**
2 **pursue against Combustion Engineering?**

3 APS's October 26, 1995 letter identified the following specific points concerning
4 the breach of warranty claim that would be argued in the litigation that APS
5 intended to pursue if a settlement was not executed:

6 1. The Palo Verde NSSS Contract contained an express warranty by
7 Combustion Engineering that the System 80 model steam generators sold
8 to Palo Verde would be designed to have a useful operating lifetime of at
9 least 40 years.¹⁷

10 "CE's factual affirmation or promise of a design life of 40 years
11 constitutes an express warranty of future performance with respect to the
12 generators, the breach of which entitles ANPP to recover all damages
13 directly resulting from the breach."¹⁸

14 "Unquestionably, the assertions made by CE in Appendix B of the
15 Contract, particularly the assertion that each NSSS will be designed to
16 have a "useful operating lifetime of at least 40 years," are "affirmation[s]
17 of fact or promise[s] made by the seller to the buyer which relate to the
18 goods and become part of the basis of the bargain [and] create an express
19 warranty that the goods shall conform to the affirmation or promise."
20 Uniform Commercial Code Section 2-313(1)(a). Moreover, that
21 "affirmation of facts or promise" was not just "part of the basis of the
22 bargain" for ANPP, but was the very essence of the bargain for ANPP.
23 Mr. E.E. Van Brunt and other ANPP personnel who were involved in the
24 negotiation of the Contract and the decision to proceed with the Contract
25 will testify that CE's adoption of the specification that the NSSS's would
26 be designed to have a useful operating lifetime of at least 40 years (under
27 normal operating conditions) was an absolutely essential element of the
28 Contract."¹⁹

29 "In any event, whether an assertion made by a seller constitutes a warranty
30 is typically a question of fact to be resolved by the jury after consideration
31 of all of the surrounding facts and circumstances. In this instance,
32 ANPP will be able to present abundant proof that the assertion made by
33 CE that each NSSS would be designed to have a useful operating lifetime
34 of at least 40 years was an affirmation of fact or a promise by CE that was

17 Exhibit___DAS-29, at page 17.

18 Exhibit___DAS-29, at page 16.

19 Exhibit___DAS-29, at pages 18 and 19.

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1 of great importance to ANPP, that was plainly understood by both parties,
2 and that certainly was part of the basis of the bargain for ANPP.”²⁰

3 2. The express warranties contained in Appendix B of the Palo Verde NSSL
4 Contract were not negated by other provisions of the Contract.

5 3. Combustion Engineering’s express warranty that each NSSL would be
6 designed to have a useful operating lifetime of 40 years was a warranty of
7 future performance.

8 “Although the [Uniform Commercial Code] generally imposes a four-year
9 statute of limitations on actions for breach of contract or breach of
10 warranty, the four-year period does not begin to run with respect to a
11 future performance warranty until the breach of that warranty is
12 discovered or reasonably should have been discovered....

13 Thus, where, as here, an express warranty is given by the seller for a
14 specific period of time (i.e., 40 years) and where discovery of the breach
15 of that warranty necessarily must await future performance, the buyer may
16 sue on the warranty within four years after “the breach is or should have
17 been discovered.”

18 In the instant case, there can be no reasonable argument that the express
19 warranty contained in Subparagraph I of Appendix B of the Contract is not
20 a “future performance” warranty. The reference to a design for a 40-year
21 useful operating lifetime is expressly set forth in the contract. Where such
22 a specific time period is set forth in the Contract, the courts are virtually
23 unanimous that a future performance warranty has been created. See In re
24 Lone Star Industries, 776 F. Supp 206 (D. Md. 1991)(specification for
25 concrete railroad ties that they would perform throughout “the design
26 service life of 50 years” gave rise to a future performance warranty)....

27 In short, the representations and assurances by CE that the System 80
28 steam generators sold to ANPP would be designed to have a useful
29 operating lifetime of at least 40 years plainly was an express warranty of
30 future performance both because of the reference to a specific time period
31 and because discovery of the breach could not reasonably have been
32 discovered earlier by ANPP. Since the facts relating to CE’s breach of the
33 40-year design warranty came to ANPP’s attention only in the last few
34 years and since the running of the statute of limitations has been tolled
35 since June 17, 1994 by agreement of the parties, ANPP’s claim against CE

²⁰ Exhibit ___ DAS-29, at page 20.

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1 for breach of express warranty is timely under Section 2-725 of the
2 Uniform Commercial Code.”²¹

- 3 4. APS need not wait to sue until the Palo Verde steam generators have been
4 rendered totally inoperable.

5 “Just as CE cannot contend that ANPP’s breach of warranty claim is
6 barred by the statute of limitations, CE likewise cannot contend that
7 ANPP’s breach of warranty claim is premature because the Palo Verde
8 steam generators are still operable under certain conditions. A similar
9 argument was made by Westinghouse in the Carolina Power & Light
10 litigation, and the argument was rejected by the court. As the court stated:

11 While the equipment warranty in this case requires that the
12 defect appear during the warranty period, it does not
13 require that the product be unfit for its intended purpose
14 during the warranty period.... Since CP&L has alleged
15 specific design defects in the steam generators and since it
16 does not appear as a matter of law that in order for a design
17 defect to appear in a product it must first render the product
18 unfit for its intended purpose, the motions to dismiss the
19 warranty claim should be denied. Carolina Power & Light,
20 12 UCC Rpt. Serv. 2d at 136.

21 Unlike the CP&L warranty, APS’s 40-year design warranty does not
22 require that a defect “appear” during the warranty period. Rather, the
23 warranty language specifically requires that the NSSS’s be designed “to
24 have a useful operating lifetime of at least 40 years” and expressly states
25 that CE’s NSSS’s are “designed for an operating lifetime of 40 years.”
26 Although the NSSS’s are not presently inoperable, the current corrosion
27 and plugging rates of steam generator tubes demonstrates that the NSSS’s
28 were not “designed for an operating lifetime of 40 years” and do not have
29 a “useful operating lifetime of at least 40 years” under normal operating
30 conditions. Having determined that the NSSS’s were not designed to
31 operate for 40 years under normal operating conditions, ANPP need not
32 wait until the NSSS’s have completely failed before asserting a warranty
33 claim against CE. See In re Lone Star Industries, 776 F. Supp. 206 (D.
34 Md. 1991)(where facts indicated that an assured “design service life of 50
35 years” for concrete railroad ties would not be achieved, breach of warranty
36 claim was ripe for determination).”²²

²¹ Exhibit___DAS-29, at pages 23 and 24.

²² Exhibit___DAS-29, at pages 24 and 25.

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1 **Q. When did the Palo Verde units begin commercial operations?**

2 A. Palo Verde Units 1 and 2 began commercial operations in 1986. Palo Verde Unit
3 3 began commercial operations in 1988.

4 Consequently, if APS had sued Combustion Engineering in 1995, that would have
5 been approximately nine years after the first two Palo Verde units commenced
6 commercial operations at full power and approximately seven years after the third
7 Palo Verde units began full power commercial operations.

8 **Q. Was there language in the SONGS 2 and 3 NSSS contracts concerning Unit**
9 **design life that was comparable to the language in the Palo Verde NSSS**
10 **contract with Combustion Engineering that formed the basis for this**
11 **potential warranty claim that APS threatened to litigate?**

12 A.

13

14

15 [REDACTED]²³

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21 [REDACTED]

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²³ [REDACTED]

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[REDACTED]²⁴

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Q. Has your review of the additional materials that have been provided by SCE and SDG&E since early December led you to revise any of the conclusions discussed in your Direct Testimony?

A. No. The additional materials that I have reviewed have confirmed the conclusions I presented at pages 5 through 7 of my Direct Testimony.

Q. Does this complete your Supplemental Testimony?

A. Yes.

²⁴ [REDACTED]