

Thomas D. Gatlin
Vice President, Nuclear Operations
803.345.4342

March 30, 2015
RC-15-0055



Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Sir / Madam:

Subject: VIRGIL C. SUMMER NUCLEAR STATION
DOCKET NO. 50-395
OPERATING LICENSE NO. NPF-12
REPORT OF STATUS OF DECOMMISSIONING FUNDING

South Carolina Electric and Gas Company (SCE&G) and the South Carolina Public Service Authority (Santee Cooper) have undivided ownership interests of two-thirds and one-third respectively in the V. C. Summer Nuclear Station (VCSNS). As provided in 10 CFR 50.75(f)(1), SCE&G is required to report to the Nuclear Regulatory Commission (NRC), by March 31, 1999, and every two years thereafter, on the status of its decommissioning funding for its two thirds share of ownership of VCSNS. Santee Cooper discloses the required information relative to its one-third ownership share in a separate submittal.

The following information is submitted pursuant to the requirement of 10 CFR 50.75(f)(1):

The amount of decommissioning funds estimated to be required pursuant to 10 CFR 50.75 (b) and (c);

The amount of decommissioning funds estimated to be required pursuant to 10 CFR 50.75 (b) and (c) for SCE&G's two-thirds ownership of VCSNS is \$329,906,640 (2014 dollars). Please see Attachment I for the calculation of this amount.

The amount accumulated at the end of the calendar year preceding the date of the report;

Note: The Company does not maintain separate trusts for funds designated to cover the costs of radiological decommissioning and funds to cover other costs. For purposes of estimating the amount of funds related to items included in the NRC's definition of decommissioning, approximately 88.69% of the accumulated funds are considered to be related to funding costs estimated to be required pursuant to 10 CFR 50.75 (b) and (c). This estimate is equal to the ratio of the total radiological decommissioning costs estimated in a 1991 site specific cost study prepared for VCSNS to the total cost that served as the basis for establishing the amount collected through electric rates in an electric rate order issued by the Public Service Commission of South Carolina (SCPSC) in 1993. The calculation is as follows:

A001
NRC

Site-specific study (1991) estimate of decommissioning costs pursuant to NRC definition (two-thirds portion)	\$118,256,667
Customer collection basis (two-thirds portion)	133,333,333
Percent of costs/collections related to items included in NRC definition of decommissioning	88.69%

As such, 88.69% of the decommissioning fund balance, after-tax collections, program costs and loan balances are presented in the Financial Assurance Model in Attachment II (The Financial Assurance Model).

The total trust fund balance at December 31, 2014 was \$167,450,326 net of tax. This balance includes cash and the cash surrender values of life insurance policies. However, advances of \$54,890,000 from SCE&G to fund premium payments have not been deducted in arriving at the amount accumulated in the trust fund.

The portion of the above accumulated trust fund balance considered to be related to radiological decommissioning requirements addressed in the NRC's financial assurance formula was \$148,511,695 net of tax, at December 31, 2014. This balance includes cash and the cash surrender values of life insurance policies. However, advances of \$48,681,941 from SCE&G to fund premium payments that are considered to be applicable to this portion of the fund have not been deducted in arriving at the balance. These amounts reflect 88.69% of total balances, as described above.

The portion of the accumulated trust fund balance considered to be related to non-radiological decommissioning costs was \$18,938,632 net of tax, at December 31, 2014. This balance includes cash and the cash surrender values of life insurance policies. However, advances of \$6,208,059 from SCE&G to fund premium payments that are considered to be applicable to this portion of the fund have not been deducted in arriving at this balance. These amounts reflect 11.31% of total balances, as described above.

SCE&G is informed and believes that the Company's use of decommissioning funds does not require prior approval from the SCPSC. Moreover, SCE&G is unaware of any SCPSC requirement prohibiting the Company from using any portion of its decommissioning funds for radiological decommissioning costs.

A schedule of the annual amounts remaining to be collected;

Please see Attachment II. The after-tax annual collection amount is currently \$1,991,388, which collection amount was based on a 1991 site specific study. Annual amounts collected through rates have not changed since 1993. The after-tax collection amounts shown in the Financial Assurance Model in Attachment II represent 88.69% of the \$1,991,388, or \$1,766,162.

The assumptions used regarding escalation in decommissioning cost, rates of earnings on decommissioning funds, and rates of other factors used in funding projections;

Please see Attachment II.

Any contracts upon which the licensee is relying pursuant to paragraph (e)(1)(v) of this section;

None

Any modifications occurring to a licensee's current method of providing financial assurance since the last submitted report;

None

Any material changes to trust agreements.

None

Site specific cost estimates for license termination, spent fuel management and site restoration

The most recent site specific decommissioning cost study for VCSNS was completed in 2012. The cost estimates taken from that study (in 2012 dollars) were \$336,035,000 for license termination, \$255,530,000 for spent fuel management and \$38,686,000 for site restoration. These estimates represent SCE&G's two-thirds ownership share of costs estimated for the DECON decommissioning alternative.

If you have any questions, please call Mr. Bruce Thompson at (803) 931-5042.

Very truly yours,



Thomas D. Gatlin
Vice President
Nuclear Operations, SCE&G



Carlette Walker
Vice President
Nuclear Financial Administration, SCE&G

SBR/TDG/CLW/ts
Attachments

c: K. B. Marsh
S. A. Byrne
J. B. Archie
N. S. Carns
J. W. Williams
W. M. Cherry
J. H. Hamilton

V. M. McCree
S. A. Williams
NRC Resident Inspector
K. M. Sutton
RTS (LTD 282, RR 1950)
File (810.34-2)
DMS (RC-15-0055)

**ATTACHMENT I
CALCULATION OF AMOUNT OF DECOMMISSIONING
FUNDS ESTIMATED TO BE REQUIRED
PURSUANT TO 10 CFR 50.75 (b) AND (c)**

Base Amount for PWR between 1,200 MWt and 3,400 MWt

$$\begin{aligned} \text{1986 Base Cost} &= \$(75 + 0.0088p) \text{ million} \\ &= \$(75 + 0.0088 \times 2900) \text{ million} \\ &= \$100,520,000 \end{aligned}$$

$$\begin{aligned} \text{Estimated Cost (Year X)} &= (\text{1986 \$ Base Cost}) (A L_X + B E_X + C B_X) \\ \text{Estimated Cost 2014} &= (\$100,520,000) ((.65 \times 2.429) + (.13 \times 2.222) + (.22 \times 13.885)) \\ &= (\$100,520,000) (1.579 + 0.289 + 3.055) \\ &= \$494,859,960 \end{aligned}$$

SCE&G's two-thirds ownership share of 2014 Estimated Cost = **\$329,906,640**

Where:

$$\begin{aligned} p &= 2,900 \text{ MWt} \\ A &= .65 \quad (\text{NUREG 1307 Rev. 15}) \\ B &= .13 \quad (\text{NUREG 1307 Rev. 15}) \\ C &= .22 \quad (\text{NUREG 1307 Rev. 15}) \\ L_X &= 2.429 \quad (\text{Computed Below}) \\ E_X &= 2.222 \quad (\text{Computed Below}) \\ P_X &= 1.880 \quad (\text{Computed Below}) \\ F_X &= 2.695 \quad (\text{Computed Below}) \\ B_X &= 13.885 \quad (\text{NUREG 1307 Rev. 15}) \\ \\ L_X &= (1.98)_{\text{Base 2005}} \times (122.7) \text{ECI} / (100) \\ &= 2.429 \\ \\ P_X &= \text{December 2014 Value} / \text{January 1986 Value} \\ &= 214.7 / 114.2 \\ &= 1.880 \\ \\ F_X &= \text{December 2014 Value} / \text{January 1986 Value} \\ &= 221.0 / 82.0 \\ &= 2.695 \\ \\ E_X &= ((.58P_X) + (.42F_X)) \\ &= ((.58 \times 1.880) + (.42 \times 2.695)) \\ &= (1.090 + 1.132) \\ &= 2.222 \end{aligned}$$

The values for the labor adjustment factor (south region), the energy adjustment factor, and the waste burial adjustment factor (Atlantic Compact, direct disposal with vendors) were taken from NUREG 1307, Revision 15.

ATTACHMENT II
EXPLANATION OF FINANCIAL ASSURANCE
MECHANISM AND AMOUNTS
REMAINING TO BE COLLECTED

Financial Assurance Mechanism

SCE&G and Santee Cooper are joint owners of undivided interests in VCSNS. Under the joint ownership arrangement, SCE&G is the operator of VCSNS and shares the ownership, operating costs and energy output of the plant with Santee Cooper in the proportions of two-thirds and one-third, respectively. Under the plan used by SCE&G to fund its share of the costs of decommissioning VCSNS, funds collected through rates are invested in life insurance policies on key company personnel who, in return for participating in the plan, may receive a two-year salary continuation benefit from SCE&G. SCE&G has established a decommissioning trust fund (trust fund) with U.S. Bank, N.A. as Trustee. SCE&G and the trust fund are beneficiaries of the life insurance policies. Lynch & Associates is the servicing agent for the life insurance policies. Through the purchase of life insurance contracts, SCE&G and the trust fund are able to take advantage of income tax provisions that allow SCE&G to accrue earnings on the life insurance contracts on a tax deferred basis. In a letter dated July 13, 1989, the NRC indicated that the program satisfies the investment criteria of its financial assurance regulations. Further, this funding methodology has been approved by the SCPSC.

Gains and losses related to policy cash surrender values are tax-deferred. Upon the death of the insured, the policy proceeds are remitted tax-free. With regard to general account policies, the trust fund receives the cash surrender value (CSV) and SCE&G receives the death benefit component (minus any CSV paid; plus any interest due from the date of death) in order to recover its term premium and salary continuation payments, if applicable. With regard to separate account policies, SCE&G is currently reinvesting death benefits back into those policies. Designated amounts collected through electric rates, insurance proceeds, and interest on proceeds, less after-tax expenses of the program, are transferred by SCE&G to the trust fund.

As noted earlier in this report, SCE&G does not maintain separate trusts for radiological and non-radiological segments of the decommissioning process. However, based upon rate treatment received in our 1993 electric rate order, 88.69% of after-tax collections (and also 88.69% of the trust fund balances) are considered to relate to items included in the NRC's definition of radiological decommissioning.

In SCE&G's June 1993 electric rate case, the SCPSC approved gross annual collections for decommissioning in the amount of \$3,224,920, based upon cost estimates contained in a 1991 site-specific study. In subsequent rate orders, including a rate order issued in December 2012, the PSC has not changed this amount. SCE&G reassesses the adequacy of annual collections on a periodic basis as site-specific decommissioning cost studies are completed. As noted earlier, \$2,860,181 (88.69% of \$3,224,920) or \$1,766,162 after-tax, is considered to be related solely to items addressed in the NRC's financial assurance formula.

The Financial Assurance Model on the following page incorporates the 2015 beginning trust fund balance (gross of advances) and projections of annual amounts (after-tax) collected through electric rates, program costs (net of tax), investment earnings, payments of amounts of decommissioning funds estimated to be required pursuant to 10 CFR 50.75 (b) and (c), and repayment of advances. The estimated timing of expenditure of the \$329,906,640 (calculated in Attachment I) is based on our 2012 site-specific study (DECON estimate). Relevant assumptions used in the Financial Assurance Model are discussed on page 3 of 3.

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 Attachment II
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Financial Assurance Model

<i>Year</i>	<i>External Trust, Beginning Balance</i>	<i>Schedule of Annual Collection Amounts</i>	<i>Program Costs, Net of Tax</i>	<i>Decommissioning Payments/Advances Repayments</i>	<i>Investment Earnings</i>	<i>External Trust, Ending Balance</i>
2014						148,511,695
2015	148,511,695	1,766,162	152,165		3,002,514	153,128,206
2016	153,128,206	1,766,162	213,422		3,093,619	157,774,565
2017	157,774,565	1,766,162	161,750		3,187,580	162,566,557
2018	162,566,557	1,766,162	152,165		3,283,611	167,464,165
2019	167,464,165	1,766,162	152,165		3,381,563	172,459,725
2020	172,459,725	1,766,162	152,165		3,481,474	177,555,196
2021	177,555,196	1,766,162	213,422		3,582,159	182,690,095
2022	182,690,095	1,766,162	161,750		3,685,890	187,980,397
2023	187,980,397	1,766,162	152,165		3,791,888	193,386,282
2024	193,386,282	1,766,162	152,165		3,900,006	198,900,285
2025	198,900,285	1,766,162	188,777		4,009,553	204,487,223
2026	204,487,223	1,766,162	176,811		4,121,531	210,198,105
2027	210,198,105	1,766,162	161,750		4,236,050	216,038,567
2028	216,038,567	1,766,162	152,165		4,353,051	222,005,615
2029	222,005,615	1,766,162	152,165		4,472,392	228,092,004
2030	228,092,004	1,766,162	188,777		4,593,388	234,262,777
2031	234,262,777	1,766,162	176,811		4,717,043	240,569,171
2032	240,569,171	1,766,162	161,750		4,843,472	247,017,055
2033	247,017,055	1,766,162	152,165		4,972,621	253,603,673
2034	253,603,673	1,766,162	188,777		5,103,621	260,284,679
2035	260,284,679	1,766,162	152,165		5,237,974	267,136,650
2036	267,136,650	1,766,162	176,811		5,374,520	274,100,521
2037	274,100,521	1,766,162	161,750		5,514,099	281,219,032
2038	281,219,032	1,766,162	152,165		5,656,661	288,489,690
2039	288,489,690	1,766,162	188,777		5,801,342	295,868,417
2040	295,868,417	1,766,162	152,165		5,949,648	303,432,062
2041	303,432,062	1,766,162	150,249		6,100,960	311,148,935
2042	311,148,935	1,766,162	150,249	14,845,799	5,958,381	303,877,430
2043	303,877,430		150,249	51,861,324	5,037,317	256,903,174
2044	256,903,174		150,249	74,987,779	3,635,303	185,400,449
2045	185,400,449		150,249	56,216,091	2,580,682	131,614,791
2046	131,614,791		150,249	39,984,685	1,829,597	93,309,454
2047	93,309,454		150,249	24,940,942	1,364,365	69,582,628
2048	69,582,628		150,249	2,870,188	1,331,244	67,893,435
2049	67,893,435		150,249	112,881,773	0	-45,138,587

Relevant assumptions used in the model to project decommissioning funds through 2049 are as follows:

- Annual payments include the repayment of SCE&G advances in the amount of \$48,681,941 (88.69% of total advances) in 2049, as well as payments for decommissioning totaling \$329,906,640 over the period 2042 - 2049.
- Estimated program costs (net of tax benefits) that are paid by SCE&G or the trust include salary continuation payments to beneficiaries of the insured and administrative costs. These costs are shown in the model at 88.69% of total estimated program costs.
- The assumed real rate of return on invested funds is 2% based on the provisions of 10 CFR 50.75(e)(1)(ii) which allows "up to a 2 percent annual real rate of return" for licensees that provide decommissioning cost estimates according to the NRC formulas under 10 CFR 50.75(c).
- This 2% earnings credit is taken through the presumed dismantlement period, as allowed for licensees that use the NRC formula under 10 CFR 50.75(c) to derive decommissioning cost estimates.
- Amounts estimated to be required pursuant to 10 CFR 50.75 (b) and (c) in 2012 dollars are expended over the dismantlement period based upon the cost estimates in our 2012 site-specific study (DECON estimate).

It should be noted that the above does not consider the effects of presumed income tax deductibility of decommissioning payments in the years in which such payments are made. Additionally, the above Financial Assurance Model incorporates the NRC formula-based cost estimates and the DECON (immediate decommissioning) methodology. In contrast, SCE&G currently intends to utilize a deferred decommissioning (SAFSTOR) methodology. Under the SAFSTOR methodology, the site will be placed and maintained for an extended period in a condition that allows for subsequent decontamination to levels that permit release for unrestricted use in 2104.

As noted earlier, SCE&G will continue to assess the adequacy of annual collections and request rate relief as appropriate, based upon results of models incorporating site specific study cost estimates and a SAFSTOR method of decommissioning.

Lastly, similar to that filed and accepted in connection with our 2013 report of status, we have enclosed current certificates of insurance evidencing our coverage for premature decontamination and decommissioning liabilities.

ATTACHMENT III

NEIL CERTIFICATE OF INSURANCE

POLICY NO. X14-052 Decontamination Liability, Decommissioning Liability, and Excess Property Insurance

POLICY NO. P14-082 Primary Property and Decontamination Liability Insurance



Nuclear Electric Insurance Limited Suite 1100
1201 N. Market Street
Wilmington, DE 19801
U.S.A.

Tel
302 888-3000
Fax
302 888-3007 Corporate
302 573-2213 Finance
302 888-3008 Insurance
302 888-3095 Loss Control

CERTIFICATE OF INSURANCE

ISSUED TO: United States NRC
ADDRESS: Washington, DC 20555
Attn: William Dean
Director of Nuclear Reactor Regulation

THIS IS TO CERTIFY that insurance has been effected with NUCLEAR ELECTRIC INSURANCE LIMITED, 1201 N. Market Street, Suite 1100, Wilmington, Delaware 19801, under Policy No. X14-052 as follows:

MEMBER INSURED: SOUTH CAROLINA ELECTRIC AND GAS COMPANY
ADDRESS: P.O. Box 764
Columbia, SC 29218
PROPERTY INSURED: Summer Nuclear Station
COVERAGE: Decontamination Liability, Decommissioning Liability, and Excess Property Insurance
AMOUNT OF INSURANCE: A. Except as provided in Item 6.B, the Insurer's maximum Limit of Liability resulting from any one Accident will not exceed \$0.
B. The Insurer's maximum Limit of Liability resulting from any one Accident that involves coverage under paragraph I.1(a), subsection I.2 or Section II will not exceed \$1,250,000,000; provided, however, that not more than \$0 of such Limit of Liability may be used for losses that are covered under Policy provisions other than paragraph I.1(a), subsection I.2 or Section II.
INSUREDS: South Carolina Electric & Gas Company and South Carolina Public Service Authority.
POLICY TERM: 12:01 a.m. on April 1, 2014 to 12:01 a.m. on April 1, 2015
Standard time in Hamilton, Bermuda.

LOSS PAYEE CLAUSE:

- A. Expenses covered under the Nuclear Liability Coverage (subsection I.A.1(a)) shall be adjusted with the Member Insured and payable to:

South Carolina Electric & Gas Company

The Member Insured may, by written notice to the Insurer, designate other payees.

- B. The expenses covered under the Debris Removal and Decontamination Coverage (subsection I.1(b)), the losses covered under the Property Damage Coverage (subsection I.1(c)), and the losses covered under the Functional Total Loss Coverage (subsection I.2(a)) shall be adjusted with the Member Insured and payable to:

South Carolina Electric & Gas Company

The Member Insured may, by written notice to the Insurer, designate other payees.

- C. Expenses covered under the Decommissioning Liability Coverage (subsection II.1) shall be adjusted with the Member Insured and payable to:

South Carolina Electric & Gas Nuclear Decommissioning Trust and South Carolina Public Service Authority Nuclear Decommissioning Internal Fund.

The Member Insured may, by written notice to the Insurer, designate other payees.

This Certificate is not transferable and may be canceled by NUCLEAR ELECTRIC INSURANCE COMPANY by giving 60 days written notice to the party to whom this Certificate is issued prior to cancellation of the insurance described herein, unless specifically provided for otherwise under the Terms, Conditions and Exceptions of the Policy.

THIS CERTIFICATE is for information only; it is not a contract of insurance but attests that a policy as numbered herein, and as it stands at the date of this Certificate, has been issued by the Company. Said policy is subject to change by endorsement and cancellation in accordance with its terms.

EFFECTIVE DATE OF THIS CERTIFICATE: April 1, 2014

CERTIFICATE EXPIRES: April 1, 2015, unless canceled sooner.

Signed by:
NUCLEAR ELECTRIC INSURANCE LIMITED


Jon Levis
Underwriter



Nuclear Electric Insurance Limited Suite 1100
1201 N. Market Street
Wilmington, DE 19801
U.S.A.

Tel
302 888-3000
Fax
302 888-3007 Corporate
302 573-2213 Finance
302 888-3008 Insurance
302 888-3095 Loss Control

CERTIFICATE OF INSURANCE

ISSUED TO: United States NRC
ADDRESS: Washington, DC 20555
Attention: William Dean
Director of Nuclear Reactor Regulation

THIS IS TO CERTIFY that insurance has been effected with NUCLEAR ELECTRIC INSURANCE LIMITED, 1201 N Market Street, Suite 1100, Wilmington, Delaware 19801, under Policy No. P14-082 as follows:

MEMBER INSURED: SOUTH CAROLINA ELECTRIC AND GAS COMPANY

ADDRESS: P.O. Box 764
Columbia, South Carolina 29218

PROPERTY INSURED: Summer Nuclear Station

COVERAGE: Primary Property and Decontamination Liability Insurance

AMOUNT OF INSURANCE: A. Except as provided in Item 6.B, the Insurer's maximum Limit of Liability resulting from any one Accident will not exceed \$1,500,000,000.

B. The Insurer's maximum Limit of Liability resulting from any one Accident that involves coverage under paragraph I.A.2, subsection I.F or Section I.G will not exceed \$1,500,000,000; provided, however, that not more than \$1,500,000,000 of such Limit of Liability may be used for losses that are covered under Policy provisions other than paragraph I.A.2, subsection I.F or Section I.G.

Course of Construction: \$50,000,000 per project

INSUREDS: South Carolina Electric and Gas Company and South Carolina Public Service Authority

POLICY TERM: 12:01 a.m. on April 1, 2014 to 12:01 a.m. on April 1, 2015,
Standard time in Hamilton, Bermuda

LOSS PAYEE CLAUSE:

A. Expenses covered under Section I.A.2 shall be adjusted with the Member Insured and payable to:

South Carolina Electric and Gas Company

B. All other covered Losses shall be adjusted with the Member Insured and payable to:

Loss, if any under this policy, except losses to Nuclear Fuel, and except as to materials and supplies and except as otherwise provided shall be adjusted with South Carolina Electric & Gas Company except as to any particular loss less than the greater of Ten Million Dollars (\$10,000,000) and three per centum (3%) of the sum of (x) the principal amount of Securities Outstanding on the date of such particular loss and (y) the principal amount of the Class A Bonds Outstanding on the date of such particular loss, other than Class A Bonds delivered to and held by the Trustee hereunder, to be made payable to The Bank of New York Mellon Trust Company, N.A., successor to Nations Bank of Georgia, National Association, as trustee as the interest of the Trustee may appear.

Payments, if any, under this policy with respect to loss or damage to the Nuclear Fuel covered under the Amended and Restated Nuclear Fuel Agreement dated October 25, 2012, between South Carolina Fuel Company, Inc. and Wells Fargo Bank, National Association, as Collateral Agent, shall be made to such Collateral Agent as its interest may appear.

C. Expenses covered under Section I.G. (Decommissioning Liability Coverage) shall be adjusted with the Member Insured and payable to:

South Carolina Electric & Gas Nuclear Decommissioning Trust and South Carolina Public Service Authority Nuclear Decommissioning Internal Fund.

The Member Insured may, by written notice to the Insurer, designate other payees under Items 10 A, B or C.

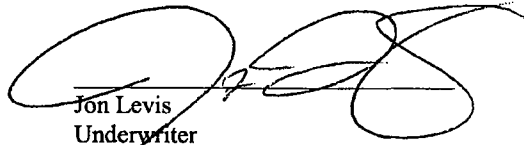
This Certificate is not transferable and may be canceled by NUCLEAR ELECTRIC INSURANCE LIMITED by giving 60 days written notice to the party to whom this Certificate is issued prior to cancellation of the insurance described herein, unless specifically provided for otherwise under the Terms, Conditions and Exceptions of the Policy.

THIS CERTIFICATE is for information only; it is not a contract of insurance but attests that a policy as numbered herein, and as it stands at the date of this Certificate, has been issued by the Company. Said policy is subject to change by endorsement and cancellation in accordance with its terms.

EFFECTIVE DATE OF THIS CERTIFICATE: April 1, 2014

CERTIFICATE EXPIRES: April 1, 2015, unless canceled sooner.

Signed by:
NUCLEAR ELECTRIC INSURANCE LIMITED


Jon Levis
Underwriter