George A. Lippard
Vice President, Nuclear Operations
803.345.4810

SCE&G®
A SCANA COMPANY

March 28, 2019
SN-19-145

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. In addition, SCE&G was required to report annually due to a merger agreement announced January 3, 2018, between SCE&G's parent company, SCANA Corporation, and Dominion Energy, Inc. The merger was completed January 1, 2019. 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 $306,049,893 (2018 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: SCE&G does not maintain separate trusts for funds designated to cover radiological decommissioning costs and funds to cover other decommissioning costs. Of the accumulated funds in the trust, approximately 88.69% are considered to be related to funding costs included in the NRC's definition of decommissioning pursuant to 10 CFR 50.75 (b) and (c), while the remaining 11.31% are considered to be related to other decommissioning costs. The 88.69% is the ratio of the total radiological decommissioning cost estimate in a 1991 site specific cost study prepared for VCSNS to the total amount that served as the basis for collections 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:

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 and program costs are presented in The Financial Assurance Model in Attachment II.

The total trust fund balance at December 31, 2018, was $190,330,017 after tax. This balance includes cash and the cash surrender values of life insurance policies. Advances of $54,890,000 from SCE&G to fund premium payments have not been deducted in arriving at this amount.

The portion of the above trust fund balance considered to be related to radiological decommissioning requirements addressed in the NRC's financial assurance formula was $168,803,692 after tax at December 31, 2018. This balance includes cash and the cash surrender values of life insurance policies. 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 trust fund balance considered to be related to other decommissioning costs was $21,526,325 after tax at December 31, 2018. This balance includes cash and the cash surrender values of life insurance policies. As above, 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'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. 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 cost study estimates.

A schedule of the annual amounts remaining to be collected;	Please see Attachment II. The after-tax annual collection amount is currently $2,420,302, which 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 $2,420,302, or $2,146,566.
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 2016. The cost estimates taken from that study (in 2016 dollars) were $419,425,340 for license termination, $275,344,000 for spent fuel management and $44,407,330 for site restoration. These estimates represent SCE&G's two-thirds ownership share of costs estimated for the DECON decommissioning alternative.
Certificates of Insurance	Current certificates of insurance evidencing SCE&G's coverage for premature decontamination and decommissioning liabilities are included in Attachment III.

If you have any questions, please call Mr. Michael S. Moore at (803) 345-4752.

Very truly yours,

George A. Lippard
Vice President Nuclear Operations,
SCE&G

Billie Kay Morris
Assistant Controller, Nuclear
SCANA Services, Inc.

SBR/GAL/BKM/hc
Attachments

c: G. J. Lindamood
S. A. Williams
C. Haney
NRC Resident Inspector

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

1986 Base Cost = $(75 + 0.0088p) million
= $(75 + 0.0088 x 2900) million
= $100,520,000

Estimated Cost (Year X) = (1986 $ Base Cost) (A L_X + B E_X + C B_X)
Estimated Cost 2018 = ($100,520,000) ((.65 x 2.624) + (.13 x 2.365) + (.22 x 11.607))
= ($100,520,000) (1.706+ 0.307+ 2.554)
= $459,074,840

SCE&G's two-thirds ownership share of 2018 Estimated Cost = **$306,049,893**

Where:

p	=	2,900 MWt	
A	=	.65	(NUREG 1307 Rev. 17)
B	=	.13	(NUREG 1307 Rev. 17)
C	=	.22	(NUREG 1307 Rev. 17)
L_X	=	2.624	(Computed Below)
E_X	=	2.365	(Computed Below)
P_X	=	2.103	(Computed Below)
F_X	=	2.727	(Computed Below)
B_X	=	11.607	(NUREG 1307 Rev. 17)

L_X = Base (Dec 2005 Value) x ECI (Qtr. 4 2018) / 100
= (1.98 x 132.5) / 100
= 2.624

P_X = December 2018 Value / January 1986 Value
= 240.2 / 114.2
= 2.103

F_X = December 2018 Value / January 1986 Value
= 223.6 / 82.0
= 2.727

E_X = $((.58P_X) + (.42F_X))$
= ((.58 x 2.103) + (.42 x 2.727))
= (1.220 + 1.145)
= 2.365

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 17.

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 $2,146,566 after-tax, is considered to relate to items included in the NRC's definition of radiological decommissioning.

The Financial Assurance Model on the following page incorporates the 2019 beginning trust fund balance (gross of advances) and projections of annual amounts (after tax) collected through electric rates, program costs (after tax), investment earnings, and payments of amounts of decommissioning funds estimated to be required pursuant to 10 CFR 50.75 (b) and (c). Relevant assumptions used in the Financial Assurance Model are discussed on page 3 of 3.

Financial Assurance Model

Year	External Trust, Beginning Balance	Schedule of Annual Collection Amounts, Net of Tax	Program Costs, After Tax	Decommissioning Payments	Investment Earnings	External Trust, Ending Balance
2018						168,803,692
2019	168,803,692	2,146,566	255,485		3,413,895	174,108,668
2020	174,108,668	2,146,566	208,071		3,520,943	179,568,106
2021	179,568,106	2,146,566	226,375		3,629,766	185,118,063
2022	185,118,063	2,146,566	196,423		3,741,364	190,809,570
2023	190,809,570	2,146,566	196,423		3,855,194	196,614,907
2024	196,614,907	2,146,566	255,485		3,970,120	202,476,108
2025	202,476,108	2,146,566	196,423		4,088,525	208,514,776
2026	208,514,776	2,146,566	226,375		4,208,699	214,643,666
2027	214,643,666	2,146,566	196,423		4,331,876	220,925,685
2028	220,925,685	2,146,566	196,423		4,457,517	227,333,345
2029	227,333,345	2,146,566	255,485		4,584,489	233,808,915
2030	233,808,915	2,146,566	208,071		4,714,948	240,462,358
2031	240,462,358	2,146,566	226,375		4,847,651	247,230,200
2032	247,230,200	2,146,566	196,423		4,983,607	254,163,950
2033	254,163,950	2,146,566	196,423		5,122,282	261,236,375
2034	261,236,375	2,146,566	255,485		5,262,549	268,390,005
2035	268,390,005	2,146,566	196,423		5,406,803	275,746,951
2036	275,746,951	2,146,566	226,375		5,553,343	283,220,485
2037	283,220,485	2,146,566	196,423		5,703,413	290,874,041
2038	290,874,041	2,146,566	196,423		5,856,484	298,680,668
2039	298,680,668	2,146,566	255,485		6,011,435	306,583,184
2040	306,583,184	2,146,566	196,423		6,170,667	314,703,994
2041	314,703,994	2,146,566	196,423		6,333,083	322,987,220
2042	322,987,220	2,146,566	196,423	14,573,804	6,207,271	316,570,830
2043	316,570,830		196,423	43,721,413	5,453,060	278,106,054
2044	278,106,054		196,423	43,721,413	4,683,764	238,871,982
2045	238,871,982		196,423	43,721,413	3,899,083	198,853,229
2046	198,853,229		196,423	43,721,413	3,098,708	158,034,101
2047	158,034,101		196,423	43,721,413	2,282,325	116,398,590
2048	116,398,590		196,423	43,721,413	1,449,615	73,930,369
2049	73,930,369		196,423	29,147,609	891,727	45,478,064
Total	**168,803,692**	**51,517,584**	**6,527,527**	**306,049,891**	**137,734,206**	**45,478,064**

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

- Estimated program costs (after tax) 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.

- Repayment of advances of $54,890,000 from SCE&G to fund premium payments have not been reflected in the model. Advances of $48,681,941, or 88.69%, are considered to be applicable to the fund balance shown in the model.

- 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 totaling $306,049,893 in 2018 dollars estimated to be required pursuant to 10 CFR 50.75 (b) and (c) based upon the DECON method are expended evenly over the dismantlement period 2042-2049.

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.

ATTACHMENT III

NEIL CERTIFICATE OF INSURANCE

POLICY NO. X18-052 Decontamination Liability, Decommissioning Liability, and Excess Property Insurance

POLICY NO. P18-082 Primary Property and Decontamination Liability Insurance

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. X18-052 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 caused by 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, 2018 to 12:01 a.m. on April 1, 2019 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) 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, 2018

CERTIFICATE EXPIRES: April 1, 2019, unless canceled sooner.

Signed by:
NUCLEAR ELECTRIC INSURANCE LIMITED

Jon Levis

Jon Levis
Underwriter II

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. P18-082 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.
INSUREDS:	South Carolina Electric and Gas Company and South Carolina Public Service Authority
POLICY TERM:	12:01 a.m. on April 1, 2018 to 12:01 a.m. on April 1, 2019, Standard time in Hamilton, Bermuda

LOSS PAYEE CLAUSE:

A. Expenses covered under Section I.A.2 (Nuclear Liability Coverage) shall be adjusted with the Member Insured and payable to:

South Carolina Electric and Gas Company

B. All other covered Losses, except for expenses covered under Section I.G. 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, 2018

CERTIFICATE EXPIRES: April 1, 2019, unless canceled sooner.

Signed by:
NUCLEAR ELECTRIC INSURANCE LIMITED

Jon Levis

Jon Levis
Senior Underwriter