**Ronald B. Clary**
*Vice President*
*New Nuclear Deployment*

SCE&G®
A SCANA COMPANY

April 1, 2010
NND-10-0104

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

ATTN: Document Control Desk

Subject: Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3 Combined License Application (COLA) - Docket Numbers 52-027 and 52-028
Response to NRC Request for Additional Information (RAI) Letter No.073 Related to Communications Systems

Reference: Letter from Tanya Simms (NRC) to Alfred M. Paglia (SCE&G), Request for Additional Information Letter No. 073 Related to SRP Section 09.05.02 for the Virgil C. Summer Nuclear Station Units 2 and 3 Combined License Application, dated November 30, 2009.

The enclosure to this letter provides the South Carolina Electric & Gas Company (SCE&G) response to the RAI items included in the above referenced letter. The enclosure also identifies any associated changes that will be incorporated in a future revision of the VCSNS Units 2 and 3 COLA.

Should you have any questions, please contact Mr. Al Paglia by telephone at (803) 345-4191, or by email at apaglia@scana.com.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 1st day of April, 2010.

Sincerely,

Ronald B. Clary

Ronald B. Clary
Vice President
New Nuclear Deployment

AMM/RBC/jf

Enclosure

D083
NRO

c: Luis A. Reyes
Tanya Simms
Joseph M. Sebrosky
John Zeiler
Stephen A. Byrne
Jeffrey B. Archie
Ronald B. Clary
Bill McCall
William M. Cherry
Randolph R. Mahan
Kathryn M. Sutton
Amy M. Monroe
Dan Patton
Fred P. Hughes
William E. Hutchins
William A. Fox
Grayson Young
FileNet

**NRC RAI Letter No. 073 Dated November 30, 2009**

**SRP Section: 09.05.02 - Communications Systems**

**QUESTIONS from Instrumentation, Controls and Electrical Engineering 1 (ICE1)**

**NRC RAI Number: 09.05.02-7**

This RAI question is supplemental to RAI No. 1798, Question 09.05.02-2. The staff requests that the following items be addressed for this supplemental RAI:

1. Of the power sources mentioned in the applicant's initial response, which power source will serve as the 'primary' power supply and which will serve as the 'secondary'?
2. The staff requests that this information for the primary and backup power supplies be added to a future revision of the FSAR so that COL Information Item 9.5-9 is properly addressed.
3. Provide information on the transfer process of primary power source to secondary power source in the event of a loss of offsite power.

V.C. Summer COL FSAR Section 9.5.2.5.1 states that COL Information Item 9.5-9 is addressed in the Emergency Plan, but does not provide the exact subsection. However, Section F of the V.C. Summer COL Emergency Plan states that there is a backup power source for the offsite communication systems and for ENS. For the original RAI 9.5.2-2 the staff requested the applicant to address the following items:

1. Identify the primary and backup power sources for the offsite communication systems and for ENS.
2. Describe the transfer to the backup power sources in the case of a Loss of Offsite Power event.

The applicant states in their response to 9.5.2-2 that a combination of inverters, batteries and/or diesel generators will supply a diverse set of power for emergency communications. However, the COL item requires the applicant to identify a 'primary' and a 'backup' power supply to address the plant specific item. Completion of detailed design is not required in order for the applicant to identify a primary and backup power supply for the emergency communications systems, especially if the applicant already knows the types of power sources that will be used according to the applicant's design specifications. This is consistent with information the staff has requested other COL applicants to provide. In addition to providing the specific power source information, the staff is requesting the the applicant provide detail on the transfer process from primary to secondary power and the information be included in the FSAR so that COL Information Item 9.5-9 is properly addressed. The regulatory basis for the RAI is Appendix E to 10 CFR Part 50, Part IV.E(9).

**VCSNS RESPONSE:**

The offsite communication systems for the plant, including the Emergency Notification System (ENS) and the Emergency Response Data System (ERDS), are powered by the normal 120V-ac power system. In the event of a loss of the ac power system, the systems are automatically switched over to the diesel backed, non-Class 1E dc and uninterruptable power supply systems.

This response is PLANT SPECIFIC.

**ASSOCIATED VCSNS COLA REVISIONS:**

VCSNS FSAR Subsection 9.5.2.5.1 will be revised to read:

~~This COL Item is addressed in Part 2, Section F "Emergency Communications" of the Emergency Plan.~~ The Emergency Notification System (ENS) and the Emergency Response Data System (ERDS) are both powered normally by the 120V-ac power system. In the event of a loss of the ac power system, the systems are automatically switched over to the diesel backed, non-Class 1E dc and uninterruptable power supply systems.

Additional information regarding emergency communication systems can be found in Part 2, Section F "Emergency Communications" of the Emergency Plan.

**ASSOCIATED ATTACHMENTS:**

None

**NRC RAI Letter No. 073 Dated November 30, 2009**

**SRP Section: 09.05.02 - Communications Systems**

**QUESTIONS from Instrumentation, Controls and Electrical Engineering 1 (ICE1)**

**NRC RAI Number: 09.05.02-8**

This RAI question is supplemental to RAI No. 1798, Question 09.05.02-3. The staff requests the following items be addressed for this supplemental RAI:

1. Is the 800MHz radio system considered by the applicant to be the Crisis Radio Management System?

2. The staff requests that the applicant augment its description of the 800 MHz radio system detailed in the Emergency Plan with the detailed provided in this RAI response and including whether this radio system is in fact the Crisis Radio Management System.

For the original RAI 9.5.2-3 the staff requested that the applicant demonstrate that the 800 MHz Radio system, as well as the other backup communications options, are capable of two-way continuous transmission in addition to specifying which systems act as a backup to all the primary emergency communication systems and include this information in the V.C. Summer FSAR. In response to the original RAI the applicant states that:

> "The 800 MHz radio system capabilities have been demonstrated by successful application at VCSNS Unit 1 to be a reliable communication tool. Appropriate design of the system utilizing both base stations and remote units in conjunction with associated cabling, repeaters, and antennas provides for optimum coverage for two-way continuous transmission. As necessary, certain direct channels can be selected to allow handset to handset communication."
>
> "In addition, there are multiple other wireless communication devices available to the emergency response personnel such as satellite phones and cellular devices. These communication products are readily available and commonly used so operation of the equipment is readily understood. Details for the use of these communication options are contained in implementing procedures for the Emergency Plan."

However, the applicant does not explicitly say that the 800 MHz radio system is the Crisis Radio Management System. And, if the 800 MHz radio system is the Crisis Radio Management System, the applicant does not commit to adding this new level of detail directly to the Emergency Plan and not implementing procedures. Without this information the staff cannot completely determine whether the applicant has fully

addressed COL Information Item 9.5-10. The regulatory basis for both the original and supplemental RAIs is 10 CFR 73.55 (f)(3), 10 CFR 50.47(b)(8).

**VCSNS RESPONSE:**

The primary system used for communication with state and county officials during an emergency is the Electric Switch System Exchange (ESSX). VCSNS employs additional backup communication systems to the ESSX system including the use of the Private Branch Exchange (PBX) telephone system, local commercial telephone system, satellite telephones, and an 800 MHz radio system. The 800 MHz system serves as the crisis management radio system for wireless communications between VCSNS onsite teams and state and county officials. These systems are described within Section F of the VCSNS Emergency Plan. As requested, in a future revision to the VCSNS COLA, additional details of the 800 Mhz radio system will be added to the VCSNS Emergency Plan. In addition, the VCSNS FSAR will also be revised to add the clarifying communication systems information discussed above.

This response is PLANT SPECIFIC.

**ASSOCIATED VCSNS COLA REVISIONS:**

1) VCSNS FSAR Subsection 9.5.2.5.2 will be revised to read:

~~This COL Item is addressed in Part 2, Section F "Emergency Communications" of the Emergency Plan.~~ The primary system used for communication with state and county officials during an emergency is the Electric Switch System Exchange (ESSX). VCSNS employs additional backup communication systems to the ESSX system including the use of the Private Branch Exchange (PBX) telephone system, local commercial telephone system, satellite telephones, and an 800 MHz radio system. In the event of the failure of one of the primary systems, the communicator manually initiates communications using one of the backup systems as described in the Emergency Implementing Procedures. The Implementing Procedures provide the details for the communications transfer should the primary equipment fail or otherwise be determined to be unacceptable. The 800 MHz system serves as the crisis management radio system between VCSNS onsite teams and state and county officials. Details of the primary and secondary communication systems are provided in Section F of the VCSNS Emergency Plan.

2) Section F of the VCSNS COL Emergency Plan will be revised to read:

800 MHz Radio: ~~This radio is available as a backup notification device to the offsite authorities at selected county warning points.~~ This radio system is an 800 MHz SCANA Corporation system that is divided into trunks which are used by corporation subsidiaries. The trunk system at VCSNS is comprised of channels for Maintenance, Operations, Health Physics, Field Monitoring Teams, etc. to allow a

means of communications between facility personnel and field personnel for routine work and emergency conditions. The system utilizes both base stations and remote units in conjunction with associated cabling, repeaters, and antennas to provide optimum coverage for two-way continuous transmission.

**ASSOCIATED ATTACHMENTS:**

None

**NRC RAI Letter No. 073 Dated November 30, 2009**

**SRP Section: 09.05.02 - Communications Systems**

**QUESTIONS from Instrumentation, Controls and Electrical Engineering 1 (ICE1)**

**NRC RAI Number: 09.05.02-9**

This RAI question is supplemental to RAI No. 1798, Question 09.05.02-4. The staff request the following items be addressed for this supplemental RAI:

1. From the standpoint of power supplies, is the ERDS intended to utilize the same primary and secondary power supplies as the ENS?
2. Does the applicant intend on adding the specific information on the primary and secondary power supplies of the ERDS, as well as for the other forms of Emergency Communications, to the Emergency Plan? If not, the staff requests that this information be added in a future revision of FSAR Section 9.5.2.

V.C. Summer COL Emergency Plan Section F(1)(5) states, "The ERO has backup methods available to provide required information to the NRC in the event that ERDS is inoperable during the the declared emergency." There is no specific detail on the backup methods and the primary and backup power sources for ERDS. For the original RAI question (RAI No. 1798, Question 09.05.02-3(6778)), the staff requested the applicant to describe the backup methods and the primary and backup power sources for the Emergency Response Data System (ERDS) system and to add this information to the FSAR. The applicant's response to RAI 9.5.2-4 is the following:

> "While the detailed design of the primary and backup communication power supplies has not been completed at this time, design specifications address the requirement for multiple power sources for the communication systems. These specifications provide for a combination of inverters, batteries and/or diesel generator supplied power."
>
> "Implementing procedures will address the specific alternatives for providing the required information to the NRC in the event ERDS is unavailable. One alternative is to utilize an individual communicator and a commercial telephone line to speak directly with an NRC contact. However, specific protocol will be contained in the implementing procedures to the Emergency Plan."

The applicant stated that implementing procedures will address specific alternatives for providing the requested information to the NRC if ERDS is unavailable such as individual communications over a commercial telephone line directly with an NRC contact. The purpose of having reliable primary and secondary power sources for emergency communications is to ensure that the plant will always have ERDS available. Completion of detailed design is not required in order for the applicant to determine a

primary and backup power supply for the emergency communications systems, especially if the applicant already knows the types of power sources that will be used according to the applicant's design specifications. This is consistent with information the staff has requested other COL applicants to provide. In order to complete our evaluation the staff requests more information on the primary and secondary power supplies to ERDS and a determination on whether the applicant will add this new level of detail to the Emergency Plan, or a future revision to the FSAR. The regulatory basis for both the original and supplemental RAIs is 10 CFR 50 Appendix E.VI.

**VCSNS RESPONSE:**

The ERDS is powered by the same primary and back-up power supplies as the ENS. A description of the power sources for both systems and associated FSAR revisions can be found in the response to RAI 09.05.02-7.

This response is PLANT SPECIFIC.

**ASSOCIATED VCSNS COLA REVISIONS:**

None

**ASSOCIATED ATTACHMENTS:**

None

**NRC RAI Letter No. 073 Dated November 30, 2009**

**SRP Section: 09.05.02 - Communications Systems**

**QUESTIONS from Instrumentation, Controls and Electrical Engineering 1 (ICE1)**

**NRC RAI Number: 09.05.02-10**

This RAI question is supplemental to RAI No. 1798, Question 09.05.02-6. The Staff requests that the applicant add the clarifying detail concerning the commercial telephone system serving as the backup for offsite communications in the applicant's original RAI response, to the Emergency Plan or Section 9.5.2 of the FSAR.

Section F(1) of the V.C. Summer COL Emergency Plan provides details on the Electric Switch System Exchange(ESSX), the Private Branch Exchange Telephone System (PBX), and the Local Commercial Telephone System. The staff requested under the original RAI 9.5.2-6 that the applicant provide details on whether the local commercial telephone system serves as a backup to the ESSX, PBX, and all other dedicated links for offsite communications. The staff also requested more details on the transfer of communications from primary to backup telephones lines and how this issue addresses NRC Bulletin 80-15 in regards to a loss of power event at the station. The applicant's response to RAI 9.5.2-6 is the following:

> "The commercial telephone system is the backup for the other dedicated links for offsite communication. In the event of the failure of one of the primary telephone systems, the communicator manually initiates communications using a commercial telephone line as described in the Emergency Implementing Procedures. The Implementing Procedures provide the details for the communications transfer should the primary equipment fail or otherwise be determined to be unacceptable."

The staff found this additional information adequately addressed this RAI question. In order to finalize the evaluation, the staff requests this additional detail be added to the either the Emergency Plan or the FSAR in a future revision. The regulatory basis for both the original and supplemental RAIs is Appendix E to 10 CFR Part 50, Part IV.E(9).

**VCSNS RESPONSE:**

The primary system used for communication with state and county officials during an emergency is the Electric Switch System Exchange (ESSX). VCSNS employs additional backup communication systems to the ESSX system including the use of the private branch exchange (PBX) telephone system, local commercial telephone system, satellite telephones, and an 800 MHz radio system. In the event of the failure of one of the primary systems, the communicator manually initiates communications using one of the backup systems as described in the Emergency Implementing Procedures. The Implementing Procedures provide the details for the communications transfer should the

primary equipment fail or otherwise be determined to be unacceptable. As requested, a description of the primary and backup offsite communication systems will be provided in the FSAR as shown in the response to RAI 09.05.02-8.

This response is PLANT SPECIFIC.

**ASSOCIATED VCSNS COLA REVISIONS:**

None

**ASSOCIATED ATTACHMENTS:**

None