



February 17, 2009
NND-09-0025

U.S. Nuclear Regulatory Commission
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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. 014

Reference: Letter from Tanya Simms (NRC) to Alfred M. Paglia (SCE&G), Request for Additional Information Letter No. 014 Related to SRP Section 8.2 for the Virgil C. Summer Nuclear Station Units 2 and 3 Combined License Application, dated January 21, 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 17th day of February, 2009.

Sincerely,


Ronald B. Clary
General Manager
New Nuclear Deployment

ADU/RBC/jg

Enclosure

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NRC RAI Letter No. 014 Dated January 21, 2009

SRP Section: 8.2 Offsite Power System

QUESTIONS from Electrical Engineering Branch (EEB)

NRC RAI Number: 08.02-1

RAI – SRP 8.2 – EEB – 02

In order for the NRC staff to confirm that the single offsite power circuit provided from the transmission network satisfies the requirements of GDC (General Design Criterion) 17, provide the voltage and frequency variations expected at all switchyards. Confirm that these voltage and frequency limits are acceptable for auxiliary power system equipment operation and Class 1E battery chargers during different operating conditions. The confirmation should include the following calculations: load flow analysis (bus and load terminal voltages of the station auxiliary system); short circuit analysis; equipment sizing studies; protective relay setting and coordination; and motor starting with minimum and maximum grid voltage conditions. A separate set of calculations should be performed for each available connection to an offsite power supply. In addition, discuss how the results of the calculations will be verified before fuel loading.

VCSNS RESPONSE:

The grid stability analysis confirms that the VCSNS Units 2 and 3 switchyard voltage remains between 0.95-1.05 per unit and that frequency remains between 60.5 Hz and 59.5 Hz for normal steady state operation, normal shutdown, unit start-up and for at least three seconds following a turbine trip event. Motor starting, utilizing the single largest motor which is a main feedwater pump, with minimum and maximum grid voltage conditions has been analyzed and found to have negligible effect on offsite system voltage. These ranges of voltage and frequency are considered normal and acceptable ranges for the AP1000, and are acceptable for auxiliary power system equipment operation and Class 1E battery chargers.

As part of the FERC Large Generator Interconnection Procedure, the Transmission Provider is required to perform a series of studies to identify the feasibility, impact and required system upgrades to support the addition of a large generator (> 20 MW) to the transmission system. The studies that were performed for VCSNS Unit 2 and Unit 3 include the Interconnection Feasibility Study, the Interconnection System Impact Study and the Interconnection Facilities Study. These studies include system power flow analysis, short circuit analysis and stability analysis to identify any required system upgrades or new equipment to support the added generation. Each of the Unit 2 studies were an input for the applicable Unit 3 study as each generator represents a separate and independent connection to the grid. These studies have been performed

per FERC and SCE&G Transmission Planning procedures, and are the basis for the required offsite power system facilities, including the VCSNS Units 2 and 3 switchyard, to support the reliable connection of VCSNS Units 2 and 3 to the transmission system.

The AP1000 voltage evaluation results are verified during the preoperational testing identified in DCD Subsection 14.2.10 which includes the following tests:

- 100 Percent Load Rejection (DCD Subsection 14.2.10.4.21),
- Plant Trip from 100% Power (DCD Subsection 14.2.10.4.24), and
- Loss of Offsite Power (DCD Subsection 14.2.10.4.26).

This response is PLANT SPECIFIC.

ASSOCIATED VCSNS COLA REVISIONS:

No COLA changes have been identified as a result of this response.

ASSOCIATED ATTACHMENTS:

None

NRC RAI Letter No. 014 Dated January 21, 2009

SRP Section: 8.2 Offsite Power System

QUESTIONS from Electrical Engineering Branch (EEB)

NRC RAI Number: 08.02-2

RAI – SRP 8.2 – EEB – 03

RG 1.206, Part I, Position C.I.8.2.1 states that a COL applicant for passive design should provide a discussion in the FSAR of how the single designated offsite power circuit from the transmission network conforms with the requirements of GDCs 5, 17 and 18 (also see guidance in Standard Review Plan Section 8.2.II). Discuss how the FSAR addresses this consideration or justifies an alternative, as well as how South Carolina Electric & Gas intends to meet the requirements of 10 CFR 50.65 with respect to maintenance of onsite and offsite power system components.

VCSNS RESPONSE:

As stated in DCD Section 8.1.4, the single offsite circuit does not perform a safety-related function for the AP1000. The required offsite circuit interface with the safety related batteries is through the Class 1E battery chargers (whose safety function is isolation.)

With regard to GDC 17, Regulatory Guide 1.206, Section C.III.1, Position C.I.8.2.1 states that for passive designs “the applicant should provide information on the single designated offsite power circuit provided from the transmission network with sufficient capacity and capability to power safety systems under normal, abnormal, and accident conditions. This power source should be the preferred source of power for passive plants.”

Reserve Auxiliary Transformers (RATs) are a maintenance source of power that supply power to the loads fed from the Unit Auxiliary Transformers (UATs), ZAS-ET-2A and ZAS-ET-2B, as shown on DCD Figure 8.3.1-1. The RATs are connected to the new VCSNS Unit 2 and 3 switchyard by independent connections. Fast bus transfer to the maintenance source occurs automatically as described in DCD Subsection 8.2.1, or transfer to the maintenance source may be initiated manually.

For each unit, the generator step-up transformer (GSU) connection to the new switchyard is a line that extends from the GSU high side breaker to the new switchyard. As described in the AP1000 DCD, offsite power will be supplied to the onsite power system from the grid through these lines when the unit is not generating. During operation, the generator output will supply the onsite power system as well as supply power to the grid through this connection. These lines are designed with adequate

capability to supply the switchyard all electric power generated from their respective AP1000 unit. The line for Unit 2 does not share a common structure with the line for Unit 3. The lines connect to the new switchyard in a double bus/ double breaker configuration as shown in the Updated VCSNS Units 2 and 3 Switchyard Single Line (see diagram below), which will be updated in the next annual COLA revision to reflect the matured design.

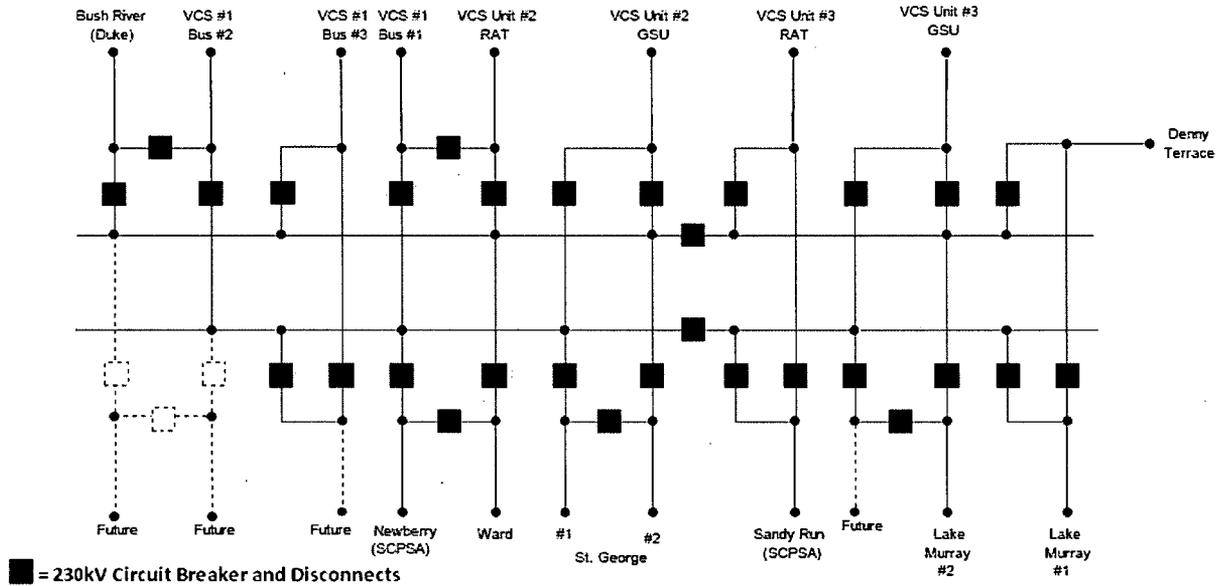
The VCSNS Units 2 and 3 switchyard has six connections to the SCE&G 230 kV transmission system, three lines to the VCSNS Unit 1 230kV switchyard, one connection to the Duke Energy 230kV transmission system and two connections to the Santee Cooper 230kV transmission system. Each of these switchyard connections from the grid has the capability to supply AP1000 loads either via backfeeding the GSU (the preferred power source) or the RATs (the maintenance source).

The switchyard failures analysis for Units 2 and 3 show that no analyzed events, such as a transmission line fault, a transmission line fault with stuck switchyard breaker, a switchyard bus fault, loss of a control power source, a spurious transmission line protection relay trip, a spurious bus protection relay trip or a switchyard bus fault with stuck breaker, will cause a loss of both the preferred and maintenance sources of offsite power to either Units 2 or 3.

VCSNS Units 2 and 3 will share a common switchyard. GSU connections for Unit 2 and 3 are connected to the switchyard in a double bus/ double breaker configuration. The remaining connections to the switchyard are connected in a breaker-and-a-half configuration. The grid stability study and the switchyard failures analysis show that this is a highly robust and reliable offsite power system. Events such as line faults, loss of system generating units, loss of largest system load, and turbine trip of Units 2 or 3 have been analyzed and shown to not affect the ability of the offsite power system to reliably provide sufficient power for house loads to each AP1000 unit during normal and abnormal conditions. The switchyard is not shared with any additional generating units beyond Units 2 and 3.

FSAR Subsection 8.2.1.4 describes maintenance and testing of offsite power systems. Under the Transmission System Operator (TSO) programs, systems are designed with the ability to permit appropriate periodic inspection and testing of important areas and features to assess the continuity of the systems and the condition of their components, the ability to periodically test the operability and functional performance of the components of the systems, and the ability to periodically test the operability of the systems.

FSAR Section 17.6 describes the Maintenance Rule Program for VCSNS Units 2 and 3, and FSAR Table 13.4-201 provides milestones for program implementation. The applicability of maintenance requirements for onsite and offsite power system components will be evaluated under this program.



Updated VCSNS Units 2 and 3 Switchyard Single Line

This response is PLANT SPECIFIC.

ASSOCIATED VCSNS COLA REVISIONS:

COLA Part 2, Figure 8.2-202 will be revised in a future to reflect the changes as shown in the Updated VCSNS Units 2 and 3 Switchyard Single Line.

ASSOCIATED ATTACHMENTS:

None

NRC RAI Letter No. 014 Dated January 21, 2009

SRP Section: 8.2 Offsite Power System

QUESTIONS from Electrical Engineering Branch (EEB)

NRC RAI Number: 08.02-3

RAI – SRP 8.2 – EEB – 04

The final paragraph of GDC 17 requires, in part, provisions to minimize the probability of the loss of power from the transmission network given a loss of the power generated by the nuclear power unit(s). Describe any limits on the main generator MVAR output such that loss of the main generator will not result in an unacceptable voltage in the switchyards. Describe any auxiliary transmission system equipment, such as capacitor banks, and static VAR compensators that may be necessary to offset loss of MVAR support on loss of the main generator.

VCSNS RESPONSE:

No VAR limits were identified in the transmission studies performed for VCSNS Units 2 and 3.

No ancillary transmission system equipment for MVAR support, including static VAR compensators or capacitors banks, were identified in the transmission studies performed for VCSNS Units 2 and 3.

This response is PLANT SPECIFIC.

ASSOCIATED VCSNS COLA REVISIONS:

No COLA changes have been identified as a result of this response.

ASSOCIATED ATTACHMENTS:

None

NRC RAI Letter No. 014 Dated January 21, 2009

SRP Section: 8.2 Offsite Power System

QUESTIONS from Electrical Engineering Branch (EEB)

NRC RAI Number: 08.02-4

RAI – SRP 8.2 – EEB – 05

RG 1.206, Part I, Position C.I.8.2.1 discusses the examination of the Failure Mode and Effects Analysis (FMEA) submitted by the applicant. In order for the staff to evaluate the FMEA, describe in detail how each event (a breaker not operating during a fault on an offsite line; fault on a switchyard bus; a spurious relay trip; and a loss of control power) in the FMEA was evaluated to conclude that the offsite power to each unit is not lost.

VCSNS RESPONSE:

Due to maturing design, the switchyard design has changed to place the generator step-up transformer (GSU) connections in their own bay in a double bus/ double breaker configuration. This design change isolates the GSU connections from faults occurring on transmission lines by eliminating a shared breaker in the breaker-and-a-half configuration. The reserve auxiliary transformer (RAT) and transmission line connections remain connected in a breaker-and-a-half configuration. The COLA will be revised in a future update to reflect these changes as described in this response. These changes are illustrated in the response to VCSNS RAI 08.02-3 figure, Updated VCSNS Units 2 and 3 Switchyard Single Line. This change does not alter the conclusions of FSAR Subsections 8.2.1.1 or 8.2.2.

Another design change now places a 230kV breaker and associated switches on the high side of the GSU and RATs for each unit. This breaker is physically located between the plant and the new switchyard, which is approximately 2000 feet to the northwest of Units 2 and 3. The COLA will be revised to reflect these changes. This change does not alter the conclusions of FSAR Subsections 8.2.1.1 or 8.2.2.

Switchyard analysis summary:

- No offsite power contingencies, including a breaker not operating during a fault on an offsite line, fault on a switchyard bus, a spurious relay trip, or a loss of control power, result in a loss of both the preferred and maintenance sources of offsite power or cause a reactor trip.
- The following evaluated contingencies do not result in a loss of offsite power: any offsite transmission line fault, any offsite transmission line fault with stuck switchyard breaker, any switchyard bus fault, loss of a control power source, any

spurious transmission line protection relay trip, any spurious bus protection relay trip or a switchyard bus fault with stuck breaker (not including a GSU breaker connection).

- The following contingencies result in a loss of connection to the preferred source, but do not result in a direct reactor trip, loss of offsite power to the maintenance power source, or loss of power to the normal 26kV supply from the generator: spurious relay operation for the GSU high side breaker or a line fault on the line that connects the GSU high side breaker to the switchyard.
- The following contingency results in a loss of connection to the preferred source and a loss of power to the normal 26kV supply from the generator, but does not result in a reactor trip due to fast bus transfer of the medium voltage system or loss of offsite power to the maintenance power source: line fault on the line that connects the GSU high side breaker to the switchyard with a stuck GSU high side breaker. For this contingency, offsite power is supplied from maintenance source by fast bus transfer of the onsite medium voltage system to the reserve auxiliary transformers (RATs).
- Any single switchyard connection from offsite power, which includes 3 tie lines to Unit 1, six transmission lines to the SCE&G system, two transmission lines to the Santee Cooper system, and a transmission line to the Duke Energy system, has adequate capability to supply house loads for both Units 2 and 3. The worst case transmission line fault scenario, which is a transmission line fault with a stuck shared breaker, will isolate only two transmission lines. This leaves ten offsite connections to the switchyard that are each individually capable of supplying house loads to both Units 2 and 3 via the respective tie lines that connect the switchyard to the GSU high side breaker.
- Neither Unit 2 nor Unit 3 main step up transformers' (GSU) switchyard connection share a breaker with a transmission line, as they are connected using a double bus-double breaker configuration. This design prevents an offsite line fault with a single breaker not operating from affecting a unit's connection to the switchyard.
- Loss of a single DC supply will not disable the ability to provide protection or trip a circuit breaker. Primary and backup relaying will be implemented, and the primary and backup relaying will be provided from independent DC control power sources. In addition, breakers will have two trip coils that are provided by independent DC control power supplies.
- The breaker-and-a-half/ double breaker configuration of the switchyard allows for a single spurious relay actuation of any switchyard line, bus or breaker to occur without affecting the ability of the offsite power system to provide power to both Units 2 and 3 from either the preferred or maintenance sources of offsite power.

This response is PLANT SPECIFIC.

ASSOCIATED VCSNS COLA REVISIONS:

1. COLA Part 2, FSAR Section 8.2.1, last paragraph will be revised to read:

A transformer area containing the GSU, the unit auxiliary transformers (UATs), and the RATs is located next to each turbine building. An area containing the GSU and RAT circuit breakers and disconnects is located approximately 150 feet to the west of the transformer area.

2. COLA Part 2, FSAR Subsection 8.2.1.1 will be revised to read:

8.2.1.1 Transmission Switchyard

Supplement the information in DCD Subsection 8.2.1.1 with the following.

A new 230kV switchyard is used to transmit electrical power output from Units 2 and 3 to the SCE&G, the Santee Cooper, and the Duke Energy 230kV transmission systems. The switchyard is also used as a power source for plant auxiliaries when the units are in the startup or shutdown modes, or when the units are not generating.

The 230kV switchyard is air-insulated and consists of ten bays, eight in a breaker-and-a-half arrangement and two in a double breaker arrangement, located about 2000 feet northwest of Units 2 and 3. The switchyard is connected to each generating unit with two overhead tie-lines. One line per unit is connected to the GSU circuit breaker and used for power export to the transmission system or for back feeding station loads when there is no generation. The second line is connected to the RATs circuit breaker and used when the UATs are not available. Information on the switchyard connections to the transmission system is provided in Subsection 8.2.1.

Failure Analysis

The circuit breakers in the 230kV switchyard are sized with sufficient continuous current carrying capacity and fault interrupting capability to perform their intended function. The 230kV switchyard disconnect switches are rated on the same continuous current basis as the circuit breakers. The 230kV switchyard single-line diagram is shown on Figure 8.2-202.

The switchyard breaker-and-a-half configuration provides for two main buses, both normally energized. The advantages of the breaker-and-a-half and double breaker schemes include:

- High reliability and operational flexibility
- Capability of isolating any circuit breaker or either main bus for maintenance without service interruption

- A bus fault does not interrupt service
- Double feed to each circuit
- All switching can be done with circuit breakers

The breaker-and-a-half configuration has multiple connections made between the buses. Each connection between the buses is made with three circuit breakers and two circuits (referred to as a bay). This arrangement allows for breaker maintenance without interruption of service. A fault on either bus will cause no circuit interruption. A breaker failure may result in the loss of two circuits (one bay) if a common breaker fails and only one circuit if an outside breaker fails. As described in Subsection 8.2.1.2.2, the protective relay schemes are designed to provide redundancy such that adequate protection is provided given a failure of any single component of the protective relaying system.

~~To take full advantage of the breaker-and-a-half configuration, the generator outputs of Units 2 and 3 are separated by three breakers. The Units 2 and 3 RAT feeds are also separated by three breakers. The connections for each RAT and each generator output are connected to different bays and are therefore separated by at least two breakers. A fault and a subsequent breaker failure will not isolate more than one bay. The double breaker configuration for the GSU connections further isolate the GSU from line faults by allowing the GSU to connect to the switchyard on a dedicated bay.~~

The features of the switchyard (i.e., breaker-and-a-half/double breaker switchyard, choice of termination points for GSU and RAT, line routing, protective relaying schemes, generator breaker, and fast bus transfer) ensure a highly reliable connection to the grid.

3. COLA Part 2, FSAR Figure 8.2-202 will be revised as indicated in the response to RAI 08.02-2.

ASSOCIATED ATTACHMENTS:

None

NRC RAI Letter No. 014 Dated January 21, 2009

SRP Section: 8.2 Offsite Power System

QUESTIONS from Electrical Engineering Branch (EEB)

NRC RAI Number: 08.02-5

RAI – SRP 8.2 – EEB – 06

Since offsite power is shared between the existing V.C. Summer Unit 1 and the proposed Units 2 and 3, how are notifications regarding changes in grid conditions coordinated between the system operator and the operators of V.C. Summer Unit 1, and Units 2 and 3? In addition, does the interface agreement require that the operators be notified of periods when the system operator is unable to determine if offsite power voltage and capacity is inadequate?

VCSNS RESPONSE:

Although the VCSNS generators connect to the SCE&G transmission system, the Unit 2 and 3 generators do not share a common switchyard with the existing VCSNS Unit 1. The VCSNS Unit 2 and 3 switchyard is connected to the offsite power system and VCSNS Unit 1 switchyard by transmission lines as described in FSAR Subsection 8.2.1.

Per the interface agreement, it is the responsibility of the System Controllers (SCE&G Transmission System Operator or TSO) to immediately report any present or predicted grid instability or voltage inadequacy to the VCSNS control room.

Per the interface agreement, the control room is required to be notified of periods when the system operator is unable to determine if offsite power voltage and capacity is inadequate.

ASSOCIATED VCSNS COLA REVISIONS:

No COLA changes have been identified as a result of this response.

ASSOCIATED ATTACHMENTS:

None

NRC RAI Letter No. 014 Dated January 21, 2009

SRP Section: 8.2 Offsite Power System

QUESTIONS from Electrical Engineering Branch (EEB)

NRC RAI Number: 08.02-6

RAI – SRP 8.2 – EEB - 07

Section 8.2.2 of the FSAR states that "[i]n order to maintain Reactor Coolant Pump (RCP) operation for three seconds following a turbine trip as specified in DCD Subsection 8.2.2, the grid voltage at the high side of the GSU and RATs must remain above the required AP1000 minimum grid voltage limit." In this regard, provide the following information:

- a. Is this voltage based on worst expected switchyard voltage?
- b. Describe the effect of a voltage drop below the AP1000 minimum grid voltage limit on the operation of the onsite auxiliary power system equipment and the Class 1E battery chargers and regulating transformers.
- c. Discuss the effects of over voltage (that could occur during turbine trip or loss of load) on the Class 1E battery chargers and regulating transformers.

VCSNS RESPONSE:

The studies for the turbine trip event were conservatively performed to account for worst case voltage conditions by establishing the following initial conditions:

- Studies were modeled using peak summer case loads
- Studies assumed the transmission line whose outage produced the most reactive output for the AP1000 unit was placed out of service. For Unit 2 studies, this line is the Santee Cooper Newberry line and for Unit 3 studies the line is the Denny Terrace line.
- Studies assumed that the system generator which produced the most reactive output for the AP1000 unit was placed out of service. For Unit 2 studies, this generator is VCSNS Unit 1 and for Unit 3 studies the generator is VCSNS Unit 2.

During the three seconds following a turbine trip, only a small order of voltage fluctuation of approximately 0.01 per unit is seen, and this would not be expected to vary based on initial voltage.

The Grid Voltage Study of V.C. Summer #2 & #3 Offsite Power System confirms that offsite power system voltage remains within the normal operating limits of the AP1000 (0.95-1.05 per unit as defined by the AP1000 DCD) for three seconds following a

turbine trip. Since there is no anticipated over or under-voltage condition following a turbine trip event, there are no anticipated effects from the event on the Class 1E battery chargers and regulating transformers.

ASSOCIATED VCSNS COLA REVISIONS:

No COLA changes have been identified as a result of this response.

ASSOCIATED ATTACHMENTS:

None

NRC RAI Letter No. 014 Dated January 21, 2009

SRP Section: 8.2 Offsite Power System

QUESTIONS from Electrical Engineering Branch (EEB)

NRC RAI Number: 08.02-7

RAI – SRP 8.2 – EEB - 08

RG 1.206, Part I, Position C.I.8.2.1 states that “[t]he results of the grid stability analysis should show that loss of the largest single supply to the grid does not result in the complete loss of preferred power. The analysis should also consider the loss, as a result of a single event, of the largest generation capacity being supplied to the grid, removal of the largest load from the grid, or loss of the most critical transmission line”. Describe how your design satisfies RG 1.206, or justify an alternative. Provide the results of the analysis along with the following information:

- a) Does this analysis include worst-case disturbances for which the grid has been analyzed to remain stable?
- b) Did the analysis include station auxiliary loads for all three units?
- c) How often is this study performed?

VCSNS RESPONSE:

- a) The analysis included the worst-case disturbances for which the grid has been analyzed to remain stable. The worst case disturbance for which the grid has been previously analyzed and considered stable is a three phase fault at the VCSNS switchyard (Unit 1) Bus #1 with the eight Fairfield Pumped Storage units in generating mode. The fault results in a loss of generation of VCSNS Unit 1 and the eight Fairfield units for a total loss of generation of 1584 MW following the clearing of the three phase fault. Following the clearing of the faults and loss of VCSNS Unit 1 and the Fairfield generating units, grid voltage recovers to pre-fault levels.
- b) Simulations included station auxiliary loads for VCSNS Units 2 and 3. The VCSNS Units' 2 and 3 switchyard is physically separated and independent from the VCSNS Unit 1 switchyard. VCSNS Unit 1 was included in the system model as a generator connected to the system, as was other system generation, but results of this study were specifically analyzed for impacts to the VCSNS Units 2 and 3 switchyard and generating units.
- c) Currently, transient stability studies are performed on a 3 year basis for VCSNS Unit 1 FSAR updates. These studies include the loss, as a result of a single event, of the largest generation capacity being supplied to the grid, removal of

the largest load from the grid, or loss of the most critical transmission line. Also, SCE&G Transmission Planning performs power flow and transient stability studies annually in compliance with NERC Reliability Standards for both 1-5 year and 6-10 year planning horizons.

ASSOCIATED VCSNS COLA REVISIONS:

No COLA changes have been identified as a result of this response.

ASSOCIATED ATTACHMENTS:

None

NRC RAI Letter No. 014 Dated January 21, 2009

SRP Section: 8.2 Offsite Power System

QUESTIONS from Electrical Engineering Branch (EEB)

NRC RAI Number: 08.02-8

RAI – SRP 8.2 – EEB - 09

Section 8.2.1.4 of the FSAR discusses maintenance, testing, and calibration practices that SCE&G follows. It states that the TSO follows its own field test manuals, vendor manuals, industry's maintenance practices, and observes FERC requirements and NERC reliability standards. Explain what is meant by 'observes'? Explain whether this statement is intended to indicate that SCE&G will follow these requirements and standards for switchyard maintenance and testing.

VCSNS RESPONSE:

The statement was intended to indicate that SCE&G follows the applicable NERC Reliability Standards associated with switchyard maintenance and testing. The paragraph will be revised for clarity as indicated below in a future update to the COL application.

ASSOCIATED VCSNS COLA REVISIONS:

Revise COLA Part 2, FSAR Subsection 8.2.1.4, paragraph three as follows:

For performance of maintenance, testing, calibration, and inspection, TSO follows its own field test manuals, vendor manuals and drawings, and industry's maintenance practices, ~~and observes Federal Energy Regulatory Commission (FERC) requirements~~ and to comply with NERC reliability standards

ASSOCIATED ATTACHMENTS:

None