



November 12, 2009
NND-09-0312

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 Supplemental Response to NRC Request for Additional Information (RAI) Letter No.055 Related to Introduction and Interfaces

Reference: 1. Letter from Sujata Goetz (NRC) to Alfred M. Paglia (SCE&G), Request for Additional Information Letter No. 055, Related to SRP Section 01 for the Virgil C. Summer Nuclear Station Units 2 and 3 Combined License Application, dated July 14, 2009.
2. Letter from Ronald B. Clary (SCE&G) to Document Control Desk (NRC), Response to NRC Request for Additional Information (RAI) Letter No. 055, dated September 4, 2009

The enclosure to this letter provides the supplemental South Carolina Electric & Gas Company (SCE&G) response to the RAI 01-4 included in the above referenced letter (Reference 1). The enclosure also identifies any associated changes that will be incorporated in a future revision of the VCSNS Units 2 and 3 COLA. For completeness, the original response is shown. The only additional information provided with this supplemental RAI response is annotated with a right margin bar.

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 12th day of November, 2009.

Sincerely,

Ronald B. Clary
Vice President
New Nuclear Deployment

D083

NRO

JMG/RBC/jg

Enclosure

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NRC RAI Letter No. 055 Dated July 14, 2009

SRP Section: 01 – Introduction and Interfaces

QUESTION from AP1000 Projects Branch 1 (NWE1)

NRC RAI Number: 01-4

The applicant incorporated by reference Section 1.8 of the DCD. This section of the DCD identifies certain interfaces with the standard design that have to be addressed in accordance with 10 CFR 52.479(a)(1)(vii)(Note: following the update to Part 52, this provision has changed to 52.47(a)(25)). As required by 52.79(d)(2), the COL applicant must demonstrate how these interface items have been met. South Carolina Electric and Gas (SCE&G) must explicitly identify how these interfaces have been met.

VCSNS RESPONSE:

Explicit identification of the Final Safety Analysis Report (FSAR) location of information addressing the interface items identified in Section 1.8 of the AP1000 DCD is provided in new FSAR Table 1.8-203, as shown in the Associated VCSNS COLA Revisions section below. Some clarifying remarks are provided below for a few items that have been addressed by the DCD subsequent to the creation of the interface item listing. During the COLA review to develop the new FSAR table, it was also determined that additional information is necessary for a few items.

Items 1.1, 18.4, and 18.5 – During review for this request, Westinghouse determined that these items have been previously completed within the DCD. Thus, Westinghouse is expected to remove these items in a future revision to the DCD. As such, a footnote (b) indicates that the associated item is not further addressed in the COLA. Once the DCD has been updated, the FSAR will be revised to incorporate these changes in a subsequent COLA update.

Item 3.3 – The seismic sensor trigger value is not currently in Revision 1 of the FSAR, but will be included in Revision 2 as shown in the Associated VCSNS COLA Revisions section below. The value provided is consistent with other Westinghouse AP1000 COL applicants.

Item 11.2 – This information is not currently in Revision 1 of the FSAR, but will be included as shown in the Associated VCSNS COLA Revisions section below. Note that there are no gaseous waste systems outside the AP1000 design scope and thus, there are no site specific parameters or interfaces.

This response is PLANT SPECIFIC.

ASSOCIATED VCSNS COLA REVISIONS:

The following FSAR changes will be made in a future revision of the COLA.

1. FSAR Section 1.8 will be revised to include the following paragraph at the end of the section with a left margin annotation (LMA) of VCS SUP 1.8-3:

DCD Table 1.8-1 presents interface items for the AP1000. FSAR section(s) addressing these interface items are tabulated in Table 1.8-203.

2. FSAR Section 1.8 will be revised to include the following new table with an LMA of VCS SUP 1.8-3:

**Table 1.8-203
SUMMARY OF FSAR DISCUSSIONS OF AP1000 PLANT INTERFACES**

Item No.	Interface	Interface Type	Matching Interface Item	Section ^(a) or Subsection
1.1	Post accident Radio-Iodine sampling capability per NUREG 0737	Requirement of AP1000	Combined License applicant program	(b)
2.1	Envelope of AP1000 plant site related parameters	Site Interface	Site specific parameters	Table 2.0-201
2.2	External missiles from man-made hazards and accidents	Site Interface	Site specific parameters	2.2.3.1, 3.5
2.3	Maximum loads from man-made hazards and accidents	Site Interface	Site specific parameters	2.2.3.1
2.4	Limiting meteorological parameters (χ/Q) for design basis accidents and for routine releases and other extreme meteorological conditions for the design of systems and components exposed to the environment.	Site Interface	Site specific parameters	Table 2.0-201
2.5	Tornado and operating basis wind loadings	Site Interface	Site specific parameters	Table 2.0-201
2.6	External missiles generated by natural phenomena	Site Interface	Site specific parameters	Table 2.0-201
2.7	Snow, ice and rain loads	Site Interface	Site specific parameters	2.3.1.3.4, 2.3.1.3.5

Item No.	Interface	Interface Type	Matching Interface Item	Section ^(a) or Subsection
2.8	Ambient air temperatures	Site Interface	Site specific parameters	Table 2.0-201
2.9	Onsite meteorological measurement program	Requirement of AP1000	Combined License applicant program	2.3.3
2.10	Flood and ground water elevations	Site Interface	Site specific parameters	Table 2.0-201
2.11	Hydrostatic loads on systems, components and structures	Site Interface	Site specific parameters	Table 2.0-201
2.12	Seismic parameters peak ground acceleration response spectra shear wave velocity	Site Interface	Site specific parameters	Table 2.0-201
2.13	Required bearing capacity of foundation materials	Site Interface	Site specific parameters	Table 2.0-201
3.1	Deleted	N/A	N/A	N/A
3.2	Operating procedures to minimize water hammer	Requirement of AP1000	Combined License applicant procedure	10.3.2.2.1, 10.4.7.2.1
3.3	Site seismic sensor location and "trigger" value	Requirement of AP1000	Onsite implementation	3.7.4.2.1, DCD 3.7.4.2
3.4	Depth of overburden	Requirement of AP1000	Onsite implementation	3.8.5.1, 2.5.4
3.5	Depth of embedment	Requirement of AP1000	Onsite implementation	3.8.5.1, 2.5.4
3.6	Specific depth of waterproofing	Requirement of AP1000	Onsite implementation	2.5.4
3.7	Foundation Settlement Monitoring	Requirement of AP1000	Combined License applicant coordination	2.5.4.13
3.8	Lateral earth pressure loads	Not an Interface	N/A	N/A
3.9	Preoperational piping vibration test parameters	Not an Interface	N/A	N/A
3.10	Inservice Inspection requirements and locations	Requirement of AP1000	Combined License applicant program	3.9.6, 5.2.4, 6.6
3.11	Maintenance of preservice and reference test data for inservice testing of pumps and valves	Requirement of AP1000	Combined License applicant program	3.9.6

Item No.	Interface	Interface Type	Matching Interface Item	Section ^(a) or Subsection
3.12	Earthquake response procedures	Requirement of AP1000	Combined License applicant program	3.7.4.4
5.1	Steam Generator Tube Surveillance Requirements	Requirement of AP1000	Combined License applicant program	5.4.2.5
6.1	Inservice Inspection requirements for the containment	Requirement of AP1000	Combine License applicant program	6.6, 6.2
6.2	Off site environmental conditions assumed for Main Control Room and control support area habitability design	AP1000 Interface	Site specific parameters	2.2.3, 6.4
7.1	Listing of all design criteria applied to the design of the I&C systems	Not an Interface	N/A	N/A
7.2	Power required for site service water instrumentation	NNS and Not an Interface	N/A	N/A
7.3	Other provisions for site service water instrumentation	NNS and Not an Interface	N/A	N/A
8.1	Listing of design criteria applied to the design of the offsite power system	NNS	Combined License applicant coordination	8.1.4.3
8.2	Offsite ac requirements: - Steady-state load; - Inrush kVA for motors; - Nominal voltage; - Allowable voltage regulation; - Nominal frequency; - Allowable frequency fluctuation; - Maximum frequency decay rate; - Limiting under frequency value for RCP	NNS	Combined License applicant coordination	8.2.2
8.3	Offsite transmission system analysis: - Loss of AP1000 or largest unit; - Voltage operating range; - Transient stability must be maintained and the RCP bus voltage must remain above the voltage required to maintain the flow assumed in Chapter 15 analyses for a minimum of three (3) seconds following a turbine trip.; - The protective devices controlling the switchyard breakers are set with consideration given to preserving the plant grid connection following a turbine trip.	NNS	Combined License applicant analysis	8.2.2, 8.2.1.2.2

Item No.	Interface	Interface Type	Matching Interface Item	Section ^(a) or Subsection
8.4	Listing of design criteria applied to the design of onsite ac power systems	NNS and Not an Interface	N/A	N/A
8.5	Onsite ac requirements	NNS and Not an Interface	N/A	N/A
8.6	Diesel generator room coordination	NNS and Not an Interface	N/A	N/A
8.7	Listing of design criteria applied to the design of onsite dc power systems	Not an Interface	N/A	N/A
8.8	Provisions of dc power systems to accommodate the site service water system	NNS and Not an Interface	N/A	N/A
9.1	Listing of design criteria applied to the design of portions of the site service water within AP1000	NNS and Not an Interface	N/A	N/A
9.2	Integrated heat load to site service water system	NNS and Not an Interface	N/A	N/A
9.3	Plant cooling water systems parameters	NNS and Not an Interface	N/A	N/A
9.4	Plant makeup water quality limits	NNS	Site specific parameter	9.2.11
9.5	Requirements for location and arrangement of raw and sanitary water systems	NNS	Site implementation	9.2.5, 9.2.6, 9.2.11
9.6	Ventilation requirements for diesel generator room	NNS and Not an Interface	N/A	N/A
9.7	Requirements to satisfy fire protection program	AP1000 Interface	Combined License applicant program	9.5.1
11.1	Expected release rates of radioactive material from the Liquid Waste System including: - Location of release points - Effluent temperature - Effluent flow rate - Size and shape of flow orifices	Site Interface	Site specific parameters	9.2.11.4, 11.2

Item No.	Interface	Interface Type	Matching Interface Item	Section ^(a) or Subsection
11.2	Expected release rates of radioactive materials from the Gaseous Waste System including: - Location of release points - Height above grade - Height relative to adjacent buildings - Effluent temperature - Effluent flow rate - Effluent velocity - Size and shape of flow orifices	Site Interface	Site specific parameters	11.3
11.3	Expected release rates of radioactive material from the Solid Waste System including: - Location of release points - Material types - Material qualities - Size and shape of material containers	Site Interface	Site specific parameters	11.4.6
11.4	Requirements for offsite sampling and monitoring of effluent concentrations	AP1000 Interface	Combined License applicant program	11.5.3, 11.5.7
12.1	Identification of miscellaneous radioactive sources	AP1000 Interface	Combined License applicant program	12.2.1.1.10
13.1	Features that may affect plans for coping with emergencies as specified in 10 CFR 50, Appendix O	AP1000 Interface	Combined License applicant program	13.3
13.2	Physical Security Plan consistent with AP1000 plant	AP1000 Interface	Combined License applicant program	13.6
14.1	Identification of special features to be considered in development of the initial test program	Requirement of AP1000	Combined License applicant program	14
14.2	Maintenance of preoperational test data and inservice inspection baseline data	AP1000 Interface	Combined License applicant program	14
16.1	Administrative requirements associated with reliability information maintenance	AP1000 Interface	Combined License applicant program	16
16.2	Administrative requirements associated with the Technical Specifications	Requirement of AP1000	Combined License applicant implementation	16
16.3	Site and operator related information associated with the Reliability Assurance Program (D-RAP)	Requirement of AP1000	Combined License applicant implementation	16.2

Item No.	Interface	Interface Type	Matching Interface Item	Section ^(a) or Subsection
18.1	Operating staff consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.6
18.2	Operator training consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.8, 18.10
18.3	Operating Procedures consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.8, 18.9, 18.10
18.4	Final coordination and integration of human system interface areas within a specific AP1000 consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	(b)
18.5	Final coordination and integration of Combined License applicant facilities with those of a specific AP1000 consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	(b)

(a) This table supplements DCD Table 1.8-1 by providing additional information in the section or subsection column.

(b) Westinghouse has determined that this item has been fully addressed by the DCD. Thus, the item is not addressed by the COLA.

- COLA Part 2, FSAR Chapter 11, Section 11.3 will be revised to add the following subsection with left margin annotation (LMA) of STD SUP 11.3-2

11.3.3 Radioactive Releases

Add the following new paragraph at the end of DCD Subsection 11.3.3:

There are no gaseous effluent site interface parameters outside of the Westinghouse scope.

- COLA Part 2, FSAR Chapter 3, Subsection 3.7.4.2.1, will be revised to add the following sentence to the end of the existing FSAR added text:

The trigger value is initially set at 0.01g.

Enclosure 1
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ASSOCIATED ATTACHMENTS:

None