

SummerRAIsPEm Resource

From: Anderson, Brian
Sent: Thursday, August 27, 2009 4:24 PM
To: SummerRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 062 RELATED TO SRP SECTION 13.3 FOR THE VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3 COMBINED LICENSE APPLICATION
Attachments: VCS-RAI-LTR-062.doc
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Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 062 RELATED TO SRP SECTION 13.3 FOR THE VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3 COMBINED LICENSE APPLICATION

Sent Date: 8/27/2009 4:23:57 PM

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From: Anderson, Brian

Created By: Brian.Anderson@nrc.gov

Recipients:

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Options

Priority: High

Return Notification: No

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August 27, 2009

Mr. Alfred M. Paglia
Manager, Nuclear Licensing
MC P40
South Carolina Electric & Gas Company
PO Box 88
Jenkinsville, SC 29065

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 062 RELATED TO
SRP SECTION 13.3 FOR THE VIRGIL C. SUMMER NUCLEAR STATION
UNITS 2 AND 3 COMBINED LICENSE APPLICATION

Dear Mr. Paglia:

By letter dated March 27, 2008, South Carolina Electric & Gas Company submitted its application to the U. S. Nuclear Regulatory Commission (NRC) for a combined license (COL) for two AP1000 advanced passive pressurized water reactors pursuant to 10 CFR Part 52. The NRC staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the final safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, you may contact me at 301-415-9967 or you may contact Chandu Patel the lead project manager for the Virgil C. Summer Nuclear Station combined license at 301-415-3025.

Sincerely,

/RA/

Brian C. Anderson, Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-027
52-028

eRAI Tracking No. 3306

Enclosure:
Request for Additional Information

CC: see next page

If you have any questions or comments concerning this matter, you may contact me at 301-415-9967 or you may contact Chandu Patel the lead project manager for the Virgil C. Summer Nuclear Station combined license at 301-415-3025.

Sincerely,

/RA/

Brian C. Anderson, Project Manager
 AP1000 Projects Branch 1
 Division of New Reactor Licensing
 Office of New Reactors

Docket Nos. 52-027
 52-028

eRAI Tracking No. 3306

Enclosure:
 Request for Additional Information

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NAME	KWilliams*	BAnderson*	MSpencer*	CPatel*
DATE	07/23/09	07/23/09	08/13/09	08/27/09

*Approval captured electronically in the electronic RAI system.

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Request for Additional Information
Virgil C. Summer Nuclear Station, Units 2 and 3
South Carolina Electric and Gas Company
Docket No. 52-027 and 52-028
SRP Section: 13.03 - Emergency Planning
Application Section: 13.3

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

13.03-34

SRP Chapter 13.3, Requirements A and H; Acceptance Criterion 11
Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

In response to **RAI 13.03-5(C)** the applicant provided a discussion of the variables for the intersection algorithm in Section 4, Estimation of Highway Capacity, which states that the model was executed iteratively to provide assurance that the allocation of effective green time appropriately represents the operating conditions. The response to **13.03-5(C)**, discusses that this iterative procedure represents a reasonably efficient operation under evacuation conditions. This approach is appropriate, if the traffic control is in place to support a reasonably efficient operation under evacuation conditions. However, in the ETE Section 13, Recommendations states that the traffic management plan “should be” reviewed by state and county emergency planners with local and state police to reconcile resources with current assets. This indicates that the plan is not currently approved.

Discuss whether the traffic management plan has been approved by state and county emergency planners.

Discuss the appropriateness of this modeling approach and whether actual signal cycle timing should be used if the traffic management plan is not implemented.

13.03-35

SRP Chapter 13.3, Requirements A and H; Acceptance Criterion 11
Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

In **RAI 13.03-11(B)** the staff asked for clarification of road characteristics. A detailed discussion is provided on the application of field data to the calculation, which states that bridges are treated as Links in the network. The inclusion of the large scale nodal map supports review of the integration of highway characteristics and some bridges are clearly defined as links in the roadway network. However, there is a bridge located between nodes 185 and 186 and there are two bridges between nodes 171 and 172. The discussion in the response to **RAI 13.03-11(B)**, indicates that these bridges should be identified as separate links in the system to account for their unique characteristics.

Discuss if the bridges between nodes 171 and 172 and 185 and 186 should be included as separate links in the nodal system. Revise nodal system map as necessary.

13.03-36

SRP Chapter 13.3, Requirements A and H; Acceptance Criterion 11
Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

In **RAI 13.03-7(C)** the staff requested that the applicant provide additional information regarding evacuating Monticello Reservoir. In response the applicant states that it is reasonable to expect boaters will be able to return to boat launch sites, trailer their boats, and begin to evacuate the area within the 4 hour mobilization time.

Discuss the capacity of the marinas and boat ramps and assumptions on trip mobilization times assumed for loading of boats considering that ramps may have limited capacity to load more than a few boats at a time.

Discuss whether the trip generation time includes residents returning home to drop off the boat, pack, and evacuate.

13.03-37

SRP Chapter 13.3, Requirements A and H; Acceptance Criterion 11
Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

In **RAI 13.03-13(D)** the staff requested that the applicant explain the values used in the shadow population and discuss the timing of traffic loading onto the network for the shadow population identified in Table 6-4. In response the applicant provided a detailed discussion of the development and calculation of shadow population vehicles. However, the applicant did not provide a discussion regarding the timing of the traffic loading onto the evacuation network.

Discuss the timing of the traffic loading onto the evacuation network.

13.03-38

Communication processes

Basis: 10 CFR 50.47(b)(6); 10 CFR 50, Appendix E.IV.E.9.b; Generic Letter 91-14, "Emergency Communications,"; 10 CFR 50.72(a)(4); NUREG-0654/FEMA-REP-1; Evaluation Criterion F.1.e; Evaluation Criterion F.2. NUREG-0800 SRP Section 13.03 ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 2

Technical Information in the Plan: Appendix 1, "References," of the VCSNS Units 2 and 3 Emergency Plan lists NRC Bulletin 80-15 and NRC Generic Letter 91-14 regarding Emergency Communications, however Reactor Safety Counterpart Link (RSCL), Protective measures Counterpart Link (PMCL), Management Counterpart Link (MCL), and Local Area Network (LAN) were not discussed. In **RAI 13.3-20(B)** staff requested additional information on how VCSNS addressed RSCL, PMCL, MCL, and LAN communications paths. In a response letter dated May 8, 2009, the applicant stated that these communication lines are reserved for use by the NRC Site Response Team and VCSNS does not include utilization of these communication links in the Emergency Plan. Testing of these communication lines on a routine basis will be included in accordance with administrative

procedures to be developed. As reflected in Generic Letter 91-14, the NRC considers these communications to be essential. A statement with regard to their use should be included in the VCSNS Emergency Plan.

Provide a statement in the VCSNS Emergency Plan regarding the use of the RSCL, PMCL, MCL, and LAN communications or provide a justification of why the statement is not needed.

13.03-39

Emergency facilities and equipment

Basis: 10 CFR 50.47(b)(8); 10 CFR 50, Appendix E.IV.E.1; 10 CFR 50, Appendix E.IV.E.3; Appendix E.IV.E.4; 10 CFR 50.34(f)(2)(iv); 10 CFR 52.79(a)(17), Three Mile Island Requirements; 10 CFR 50, Appendix E.VI Emergency Response Data System; Appendix E.VI. Maintaining Emergency Response Data System; Appendix E.VI Implementing the Emergency Response Data System Program; NUREG-0654/FEMA-REP-1; Evaluation Criterion H.1; Evaluation Criterion H.2; SRP ACCEPTANCE CRITERIA: Requirements A, B and E; Acceptance Criteria 1, 2, 4, 5, 12, 25, 26, 27, 28

Technical Information in the Emergency Plan: Section K.5.b, “Contamination Control Measures,” of the VCSNS Emergency Plan states decontamination of personnel will be performed at decontamination areas located onsite. Temporary decontamination areas can also be set up inside at various locations. Showers and supplies to be used are provided onsite. Section H.12, Emergency Equipment and Supplies,” provides a general list of supplies kept in each facility. The emergency plan does not provide the location of decontamination facilities onsite or provide a list of supplies that are available for decontamination of personnel. DCD Section 1.2.5, “Annex Building,” identifies decontamination facilities in the Annex building hot shop but it is not clear if this is the facility mentioned in the emergency plan. In **RAI 13.3-22(B)** the staff requested additional information on the location of decontamination facilities and supplies that will be available for decontamination of personnel. In a response letter dated May 8, 2009, the applicant stated that decontamination facilities and their location will be described in the Emergency Plan Implementing Procedures to be submitted within the required timeframe as required by the EP ITAAC. The procedures will also address decontamination materials.

In response to **RAI 13.3-22(B)** the applicant stated that information related to decontamination facility locations and supplies will be provided in Implementing Procedures.

Since 10 CFR 50, Appendix E.IV.E.3 requires that decontamination facilities at the site and the supplies for decontaminating onsite individuals be described, revise the VCSNS Emergency Plan to address the location(s) of onsite decontamination facilities and describe the decontamination supplies associated with these facilities.

13.03-40

Medical services

Basis: 10 CFR 50.47(b)(12); 10 CFR 50, Appendix E.IV.E.5; NUREG-0654/FEMA-REP-1; Evaluation Criterion L.1; Evaluation Criterion L..2 NUREG-0800, SRP 13.03 ACCEPTANCE CRITERIA: Requirement A; Acceptance Criterion 1

Technical Information in the Emergency Plan: [L.1.] Section L.1, "Offsite Hospital and Medical Services," of VCSNS Emergency Plan states that there are arrangements by letter of agreement with Palmetto Richland Hospital for receiving and treating contaminated or exposed persons requiring immediate medical care. Palmetto Richland Hospital is identified in the list of letters of agreement in Appendix 2 "Letters of Agreement,". Section L.3, "Medical Service Facilities," discusses backup response for contamination and exposure injuries from the Radiation Emergency Assistance Center/Training Site (REAC/TS) in Oak Ridge Tennessee. In **RAI 13.03-24(B)** staff requested information to explain if there are arrangements for backup hospital or physician that can be used for treating contaminated or exposed persons requiring immediate medical care. In a response letter dated May 8, 2009, the applicant stated that the back-up medical facility for contamination and exposure injuries is the REAC/TS. Personnel requiring treatment beyond that provided by the primary facility will be transported to REAC/TS with transportation provided by the county, State, or Federal Agencies.

In response to **RAI 13.03-24(B)** the applicant stated that REAC/TS is the backup medical facility for treatment of contaminated injured individuals from the VCSNS site. The South Carolina State Plan specific to the VCSNS site identifies Newberry County Memorial Hospital as the backup facility for treatment of contaminated injured individuals.

Clarify in the VCSNS Emergency Plan which facility will act as a backup for the treatment of contaminated injured individuals.

13.03-41

[Basis: 10 CFR 52.79(a)(21), 10 CFR 50.47(b)(4), Section IV.B of Appendix E to 10 CFR Part 50] EALs are discussed in Section D, "Emergency Classification System," of COL application Part 5, "Emergency Plan.

In **RAI 13.03-31** the applicant was requested to choose either Option 1 to provide an entire EAL scheme or Option 2 which would require a commitment to either EAL scheme NEI 07-01, Rev 0 or NEI 99-01 Rev 5, and address the 4 critical elements, and submit a revised Section D. In the May 8, 2009 response, the applicant chose Option 2. However the response did not adequately address Critical Elements #2, #3, and #4:

A) The references need be to a specific document such as "NEI-07-01, Revision 0." Statements "the most current NRC endorsed version available" are not acceptable.

B) Where an existing proposed EAL scheme is addressed that will be removed in a subsequent Emergency Plan revision the words such as "reserved" or "to be determined" needs to be replaced with either "not used" or "Intentionally left blank."

C) The proposed license condition also should reference the specific NEI document and not “the most current NRC endorsed version available.”

Address corrections to Critical Elements #2, #3, and #4.

Confirm that the final EAL scheme has been reviewed and agreed upon by State and local Emergency Management officials.

13.03-42

COL Information Items

Basis: 10 CFR 50.47 and Appendix E to 10 CFR Part 50

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 2 A. COL Action Item

The applicant's response to **RAI 13.03-29(B)** refers to Section H.2, "Activation and Staffing of Emergency Response Facilities," of the VCSNS Emergency Plan which states that the emergency response facilities (ERFs) are staffed and activated in accordance with emergency plan implementing procedures (EPIPs).

Provide additional information in the VCSNS Emergency Plan on the timeliness of staffing the ERF and details defining when the ERF is activated and when it is fully operational.

13.03-43

Basis: 10 CFR 52.80(a)

NUREG-0800 SRP Acceptance Criteria: Requirement E; Acceptance Criterion 23

RAI 13.03-30(B)(1) Table C.II.1-B1 (generic ITAAC) acceptance criterion 14.1.3 addresses offsite exercise objectives associated with the full participation exercise. Explain why Table 3.8-1, (EP-ITAAC) does not include an acceptance criterion to reflect the offsite exercise objectives associated with the full participation exercise, and how this is consistent with the intent of this generic ITAAC. The applicant was asked to either provide the appropriate acceptance criterion, or explain why it is not required. In a letter dated May 8, 2009, the applicant responded that the offsite exercise objectives and their “extent of play” can not be determined this far in advance of the exercise.

Provide the exercise objectives for the offsite full participation exercise for Unit 2 and 3 prior to each Unit exercise.