SummerRAIsPEm Resource

From: Simms, Tanya
Sent: Monday, August 17, 2009 2:22 PM
To: SummerRAIsPEm Resource
Subject: Request for Additional Information Letter No. 061 Related to SRP Section 09.02.01 for the Virgil C. Summer Nuclear Station Units 2 and 3 Combined License Application
Attachments: SUM-RAI-LTR-061.doc

Hearing Identifier: Summer_COL_eRAIs
Email Number: 66

Mail Envelope Properties (B4ECC0E252653F48B3F57C3B833465E8101C194F48)

Subject: Request for Additional Information Letter No. 061 Related to SRP Section 09.02.01 for the Virgil C. Summer Nuclear Station Units 2 and 3 Combined License Application
Sent Date: 8/17/2009 2:22:21 PM
Received Date: 8/17/2009 2:22:22 PM
From: Simms, Tanya

Created By: Tanya.Simms@nrc.gov

Recipients:
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MESSAGE	3	8/17/2009 2:22:22 PM
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Options
Priority: Standard
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August 17, 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. 061 RELATED TO SRP SECTION 09.02.01 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 advance 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 301-415-1387 or you may contact Chandu P. Patel the lead project manager for the Virgil C. Summer Nuclear Station combined license at 301-415-3025.

Sincerely,

/**RA**/

Tanya Simms, Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-027
52-028

Enclosure:
Request for Additional Information

CC: see next page

If you have any questions or comments concerning this matter, you may contact me at 301-415-1387 or you may contact Chandu P. Patel the lead project manager for the Virgil C. Summer Nuclear Station combined license at 301-415-3025.

Sincerely,

/**RA**/

Tanya Simms, Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-027
52-028
eRAI Tracking No. 3290

Enclosure:
Request for Additional Information

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DATE	07/8/09	07/9/09	8/10/09	8/17/09

*Approval captured electronically in the electronic RAI system.

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Request for Additional Information No. 3290 Revision 0
Virgil C. Summer Nuclear Station, Units 2 and 3
South Carolina Electric and Gas Company
Docket No. 52-027 and 52-028
SRP Section: 09.02.01 - Station Service Water System
Application Section: 9.2.11

QUESTIONS from Balance of Plant Branch 1 (SBPA)

09.02.01-6

The raw water system (RWS) is relied upon for achieving and maintaining cold shutdown conditions which is necessary for satisfying Technical Specification requirements. In accordance with NRC policy considerations for passive plant designs, non-safety related active systems that are relied upon for achieving and maintaining cold shutdown conditions (i.e., transitioning from Mode 4 to Mode 5) should be highly reliable and able to accommodate single active failures without a loss of the cooldown capability that is needed. The staff found that Section 9.2.11 of the Final Safety Analysis Report (FSAR) does not provide a clearly defined design basis with respect to the RWS cooldown function, and the reliability and capability of the RWS to perform this function for the most limiting situations were not adequately described and addressed. For example, the minimum RWS flow rate, water inventory, temperature limitations, and corresponding bases for providing SWS makeup for the two V.C. Summer units were not described. Also, the suitability of RWS materials for the plant-specific application and measures being implemented to resolve vulnerabilities and degradation mechanisms to assure RWS functionality over time were not addressed. Consequently, Section 9.2.11 of the FSAR needs to be revised to properly describe and address the RWS design bases in this regard and to include design specifications that are necessary to ensure the reliability and capability of the RWS to perform its cooldown function.

The applicant's response dated March 4, 2009 provided adequate details for most of the RAI 09.02.01-2 and RAI 09.02.01-4. A complete description is not provided to demonstrate that the RWS is designed to be a highly reliable and robust system capable of operating during a loss of normal ac power to provide RWS makeup flow under normal and abnormal conditions for support of cold shutdown conditions for up to seven (7) days. The staff requests clarification on the following items;

- The service water system (SWS) normal water makeup is from the water treatment (Figure 9.2-201) which is shown as a "black box" on the drawing. The staff needs additional details related to what is inside the "black box". Specifically, major equipment such as tanks, strainers and screens, pumps, piping arrangement and flow distribution need to be shown in FSAR Figure 9.2-201 and described in FSAR Section 9.2.11.

- The staff could not determine if the flooding discussion in the RAI response includes the Ancillary RWS and water treatment facility; reference GDCs 2 and 4. This should be clarified.

09.02.01-7

The applicant's response dated March 4, 2009 provided adequate detail for most of RAI 09.02.01-3. A complete description is not provided to demonstrate that the RWS is designed to be a highly reliable and robust system capable of operating during a loss of normal ac power to provide RWS makeup flow under normal and abnormal conditions for support of cold shutdown conditions for up to seven (7) days. The staff requests the following items;

1) The Ancillary RWS system is mentioned once in the above noted RAI responses and provided FSAR markup, but no drawings or detailed text are described in the FSAR. More details concerning the Ancillary RWS need to be provided in the FSAR.
2) In FSAR Section 14.2.9.4.24, "Raw Water System," testing does not included the water treatment facility or Ancillary RWS which is the primary water supply to the SWS cooling towers. Provide a description of the type of testing planned for the water treatment facility.
3) The RAI response stated that the RWS piping and structures are designed and constructed in accordance with nationally recognized codes and standards (such as ASME B31.1, AWWA and IBC). The COL FSAR, however, did not include any recognized codes and standards such as ASME B31.1, "Power Piping," for the RWS including underground piping. The COL FSAR needs to contain such standards.

09.02.01-8

The applicant's response dated March 4, 2009 provided adequate detail for most of RAI 09.02.01-5. However, a complete description is not provided to demonstrate that the RWS is designed to be a highly reliable and robust system capable of operating during a loss of normal ac power to provide RWS makeup flow under normal and abnormal conditions for support of cold shutdown conditions for up to seven (7) days. The staff requests the following:

- A complete description is not provided for backup electrical power to the water treatment facility and screenwash and travelling screens to demonstrate that the RWS is highly reliable. Please provide this description. In addition, provide a detailed description on the effects of the water treatment facility during a loss of offsite power (LOOP).