



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 19, 2015

Mr. Thomas D. Gatlin
Vice President, Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88, Mail Code 800
Jenkinsville, SC 29065

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1 – REQUEST FOR
ADDITIONAL INFORMATION REGARDING ALTERNATIVE REQUEST
(TAC NO. MF5612)

Dear Mr. Gatlin:

By letter dated January 20, 2015, the South Carolina Electric & Gas Company (SCE&G, the licensee) submitted an alternative request for Virgil C. Summer, Unit 1. SCE&G proposed to use a root mean square error criterion for sizing flaws that is greater than that allowed by American Society of Mechanical Engineers (ASME) Code for Reactor Pressure Vessel nozzles to safe-end cold leg welds.

The NRC staff has determined that additional information is needed to continue the review as discussed in the Enclosure. We request that SCE&G respond to these RAIs within 30 days of the date of this letter. Please note that the NRC staff's review is continuing and further requests for information may be developed.

Sincerely,

A handwritten signature in black ink that reads "Shawn Williams".

Shawn Williams, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-395

Enclosure:
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION

ALTERNATIVE REQUEST

DEPTH SIZING ROOT MEAN SQUARE ERROR CRITERIA

VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-395

The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the South Carolina Electric & Gas Company (SCE&G) alternative request, RR-4-07, dated January 20, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15022A655), for the Virgil C. Summer Nuclear Station, Unit 1. The request pertains to Supplement 10, Appendix VIII of Section XI qualification requirements related to flaw depth sizing root mean square error (RMSE) criteria.

The NRC staff has determined that the following request for additional information (RAI) is required to complete its review.

RAI No. 1

The NRC authorizes a proposed alternative pursuant to 10 CFR 50.55a(z)(1) only if the alternative is equivalent in quality to the ASME Code requirement. The NRC staff finds that the licensee's proposed alternative RMSE criteria in RR-4-07 is not equivalent in quality to the Supplement 10, Appendix VIII of Section XI requirements. Furthermore, the NRC staff has approved similar requests submitted in the past by other plants, under impractically in accordance with 10 CFR 50.55a(g)(6)(i). Therefore, the NRC staff suggests that the licensee revises RR-4-07 to state that the licensee is requesting relief pursuant to 10 CFR 50.55a(g)(5)(iii).

RAI No. 2

In the past, the NRC staff approved similar requests (e.g., Accession Nos. ML13064A425 and ML14073A544) provided that the licensee's proposed alternative also included the following compensatory measures.

If any cracks are detected and measured by Ultrasonic Testing (UT) as 50 percent through wall depth or greater, and to remain inservice without mitigation or repair, a flaw evaluation shall be performed and submitted for the NRC review and approval prior to reactor startup. The flaw evaluations shall include:

- the inner profile of the weld, pipe, and nozzle in the region at and surrounding the flaw
- an estimate of the percentage of potential surface areas with UT probe lift-off
- information on mechanism which caused the crack

If any cracks are detected and measured by the UT as less than 50 percent through wall depth, adding the industry proposed correction factor (procedure RMSE - 0.125 inch) to the depths of

Enclosure

any flaw found by the UT prior to flaw evaluation for flaws less than 50 percent through wall satisfactorily reduces the effect of the increased sizing error associated with not meeting the ASME Code required 0.125 inch RMSE.

The above measures will provide reasonable assurance of structural integrity of the examined welds. Therefore, the NRC staff suggests that the licensee revises RR-4-07 to include the above compensatory measures; or justify why these compensatory measures are not needed.

RAI No. 3

- (a) Provide materials of construction for the subject pipes, elbows, and welds.
- (b) Provide dimensions (e.g., wall thickness and diameter) for the subject welds.
- (c) Provide a sketch of the welds.

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/RA/

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