

November 24, 1986

Docket No. 50-395

Mr. D. A. Nauman
Vice President, Nuclear Operations
South Carolina Electric & Gas Company
P.O. Box 764 (Mail Code 167)
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Dear Mr. Nauman:

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Subject: V. C. Summer Nuclear Station, NUREG-0737, Item II.K.3.31

By letter dated July 3, 1986, you responded to NUREG-0737, Item II.K.3.31, "Compliance with 10 CFR 50.46" by referencing topical report WCAP-11145, "Westinghouse Small Break LOCA ECCS Evaluation Model Generic Study with the NOTRUMP Code." The topical report demonstrates that the small break loss of coolant accident calculations in the Virgil C. Summer Nuclear Station Final Safety Analysis Report are conservative in comparison to the NOTRUMP evaluation model calculations. This meets the requirements of Generic Letter 83-35, "Clarification of TMI Action Plan Item II.K.3.31," 10 CFR 50.46, and Operating License No. NPF-12 condition 2.C.(23)e. Our safety evaluation report is enclosed.

This completes our action related to TMI Action Plan Item II.K.3.31.

Sincerely,

/s/

Jon B. Hopkins, Project Manager
PWR Project Directorate #2
Division of PWR Licensing-A
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc: See next page

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DM:Miller
11/24/86

PM:PAD#2
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Mr. D. A. Nauman
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Virgil C. Summer Nuclear Station

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NUREG-0737, Item II.K.3.31
Show Compliance with 10 CFR 50.46
Safety Evaluation for the
Virgil C. Summer Nuclear Station

Section II.K.3.30 of NUREG-0737 outlines the Commission requirements for the industry to demonstrate that its small break LOCA methods continue to comply with the requirements of Appendix K to 10 CFR 50. The technical issues to be addressed were listed in NUREG-0611 including comparison with semiscale experimental test results. In response to Section II.K.3.30, the Westinghouse Owners Group elected to reference the NOTRUMP code as the new licensing small break LOCA model. The NOTRUMP code and methodology are described in WCAP-10079 and WCAP-10054. The staff reviewed and approved NOTRUMP as the new licensing tool for calculating small break LOCA response for Westinghouse plant designs. The staff further concluded that the Westinghouse Owners Group had met the requirements of Section II.K.3.30.

Referencing the new computer code did not imply deficiencies in the WFLASH code (which was previously utilized for small break LOCA analysis) such that the code did not comply with Appendix K to 10 CFR 50. The decision to use NOTRUMP was based on desires of the industry to perform licensing evaluations with a computer program specifically designed to calculate small break LOCAs with greater phenomenological accuracy than capable by WFLASH.

Section II.K.3.31 of NUREG-0737 required that each license holder or applicant submit a new small break analysis using the model approved under II.K.3.30. NRC Generic Letter 83-35 provided clarification for the II.K.3.31 requirements by allowing license holders and applicants to comply on a generic basis by demonstrating that the WFLASH analyses are conservative when compared to analyses performed using NOTRUMP.

In response to this guidance the Westinghouse owners submitted WCAP-11145 which contains generic comparisons to WFLASH analyses for various plant types. These include comparisons for 3-loop plants of the Summer design. If plant specific analyses were performed for Summer using NOTRUMP, lower peak clad temperatures should be expected in comparison with the generic NOTRUMP analysis (about 228°F lower than the 1,627°F PCT currently calculated with WFLASH SBLOCA EM).

Although the calculated peak temperatures are significantly lower for the NOTRUMP analyses than for the WFLASH analyses the 4 inch break remains the limiting break size.

Staff review of WCAP-11145 has been completed and accepted as a licensing basis for SBLOCA analysis. The applicant has referenced WCAP-11145 (which consists of the results from calculations using approved methodology) in lieu of submitting a plant specific analysis and meets the criteria as stated in NRC Generic Letter 83-35. The staff, therefore, concludes that the Summer FSAR analyses of small break LOCA have been demonstrated to be conservative in comparison with the NOTRUMP Evaluation Model. This meets the requirements of II.K.3.31 and 10 CFR 50.46 for Summer.