



February 9, 2001  
RC-01-0033

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION  
DOCKET NO. 50/395  
OPERATING LICENSE NO. NPF-12  
CHANGE TO COMMITMENTS PROVIDED IN DECEMBER 29,  
2000, LETTER RESPONDING TO QUESTIONS DATED  
DECEMBER 22, 2000  
MSP 00-0244

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Reference: Stephen A. Byrne to Document Control Desk Letter Dated  
December 29, 2000; RC-00-0377

The referenced letter submitted responses to the questions provided by the NRC in a letter dated December 22, 2000. These questions pertain to the cracked weld in the "A" loop of the Reactor Coolant System. South Carolina Electric & Gas Company (SCE&G) has determined that minor changes to the documented commitments are required.

These changes pertain to the proposed enhancements to our leakage detection programs. The changes do not detract from the effectiveness of the enhancements and are discussed in the attachment.

Should you have any questions, please call Mr. Phil Rose at (803) 345-4052.

Very truly yours,

Stephen A. Byrne

PAR/SAB/dr  
Attachment

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Discussion of docketed commitments and justification for change.

SCE&G reviewed the licensing and design bases for leakage detection systems after discovery of very small pressure boundary leakage in the "A" hot leg reactor vessel nozzle-to-pipe weld. Although systems and programs meet all past and present regulatory requirements, our investigation has shown that improvements can be made to alert plant operators of changing conditions that may require attention.

The referenced letter included commitments, which included noble gas sampling and comparison, installing additional alarms in the control room, and performing the water balance inventory daily. While implementing these changes, SCE&G has determined that some of the proposed changes provided no useful information and so minor change to the scope, methodology, or wording of these commitments is required.

Noble gas sampling and analysis can potentially detect very small changes in the reactor coolant system and containment atmosphere and provide early warning of reactor coolant leaks of less than the TS limit. The commitment stated that a comparison would be made using the concentrations of Argon-41, Xenon-133, and Xenon-135 in the atmosphere and in the coolant to provide additional information on potential leaks. This information would be beneficial in the overall assessment of conditions inside the reactor building.

Further evaluation determined that no useful information could be obtained from analyzing Argon-41. This is because the atmosphere has naturally occurring Argon. This atmospheric Argon, when in close proximity to the reactor vessel during operation, becomes activated (Argon-41). An evaluation using this isotope will not provide useful information supporting leakage determinations. Therefore, V. C. Summer will perform the comparison of isotopic concentrations using only Xenon-133 and Xenon-135. This process is experimental and will be performed for at least six months or until sufficient data has been collected to confirm the practicality of this comparison technique.

The additional control room alarms discussed in the referenced letter were to provide early warning of leakage into the reactor building sump and initiate investigation of the condition. The computer-generated alarm display (OPCRIT) was to contain separate warnings for sump in-leakage of 0.75 gpm and a 0.5 gpm step change. The operations staff prefers to implement this warning as a main control board annunciator. This change will provide an early warning on the control board, with readily available guidance in the Annunciator Response Procedures for verification and actions.

The 0.5 gpm step change alarm will not be implemented. Normal reactor building sump in-leakage is typically slightly greater than 0.2 gpm, therefore a step change equivalent to 0.5 gpm will place the 0.75 gpm setpoint into alarm. Reducing the proposed alarm below 0.5 gpm will produce false, nuisance alarms. Additionally, these alarms being on the main control board will ensure that a higher level of awareness is obtained, should an alarm be received. The 0.75 and 1.0 gpm alarm on the main control board meets the objective of providing both early warning of a reactor building leak and the notification of a step change in sump in-leakage.

The commitment to perform the water inventory balance Surveillance Test Procedure is being modified to clarify the intent. V. C. Summer intends to perform this surveillance once per day; however, very stable plant conditions are required to meet the prerequisites of the procedure so that meaningful results are obtained. This surveillance may not be performed during specific plant conditions or evolutions. The surveillance will be performed daily if and when the conditions are such that accurate, meaningful data can be collected.