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Nuclear Operations

December 13, 1993
Refer to: RC-93-0304

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

Attention: Mr. G. F. Wunder

Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION (VCSNS)
DOCKET NO. 50/395
OPERATING LICENSE NO NPF-12
TECHNICAL SPECIFICATION CHANGE - TSP 930017
FUEL STORAGE

South Carolina Electric & Gas Company (SCE&G) hereby requests a revision to the Technical Specifications for the Virgil C. Summer Nuclear Station (VCSNS). This proposed change revises Figures 3.9-1 and 3.9-2 which establish the minimum required fuel assembly burnup as a function of initial enrichment to permit storage of fuel assemblies in Regions 2 and 3, respectively, of the spent fuel storage racks. The figures are being extended to cover initial enrichments up to 5.0 w/o U-235. The burnups required for storage in Region 2 are also being revised to account for the presence of absorber panel shrinkage and gaps. (Region 3 does not contain absorber panels.) Also, Section 5.3.1 is being revised to allow uranium dioxide with maximum nominal enrichments up to 5.0 w/o U-235 to be used as fuel material. In addition, Section 5.3.1 is being modified to conform to the example provided by the NRC in Generic Letter 90-02, Supplement 1, to accommodate limited fuel reconstitution. Section 5.6, Fuel Storage, is being revised to be consistent with the changes to Figures 3.9-1 and 3.9-2 and Section 5.3.1 and to account for the presence of absorber panel shrinkage and gaps in Region 1 of the spent fuel racks. A limit is being placed on the maximum reference K_{∞} for fuel assemblies placed in Region 1.

The purpose of these portions of the Technical Specifications is to ensure that inadvertent criticality will not occur in the fuel storage racks. In order to support shorter refueling outages, increased capacity factors, and a potential core power uprate to 2900 MWt, and to minimize the impact of discharged fuel assemblies on available spent fuel storage, it is necessary to increase fuel enrichments above the current 4.25 w/o U-235 limit. It should be emphasized, however, that approval is not being sought at this time for operation above the currently licensed core power of 2775 MWt. The above changes are being requested to maintain the design basis for preventing criticality outside the reactor core for fuel assemblies with enrichments up to 5.0 w/o U-235. The changes also ensure that the design basis is preserved in the presence of absorber panel shrinkage and gaps in Regions 1 and 2 of the spent fuel racks.

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Attachment I provides marked-up copies of the appropriate Technical Specification pages; Attachment II provides a description of the proposed changes, the reasons for requesting the changes, and the supporting safety evaluation; Attachment III provides the No Significant Hazards Determination for the request, and Attachment IV provides a copy of the Westinghouse report describing the criticality analysis performed for the spent fuel racks. As stated in the introduction to the report, the fresh fuel racks have been previously analyzed for storage of Westinghouse 17x17 fuel assemblies with enrichments up to 5.0 w/o U-235. The fresh fuel rack criticality analysis is described in Attachment III to the letter from SCE&G [D. A. Nauman to Document Control Desk, "Technical Specification Change - Fuel Storage," dated March 8, 1988] (enclosed as Attachment V). Since the previous analysis remains valid and applicable, the fresh fuel racks were not re-analyzed for this request.

In addition to the development of spent fuel rack storage limits taking no credit for the presence of soluble boron, Attachment IV contains the development of storage limits assuming a minimum boron concentration of 300 ppm. However, the Technical Specification changes being proposed at this time are based on the storage limits developed without taking credit for soluble boron.

Because the proposed changes to increase the fuel enrichment limitations in the VCSNS Technical Specifications must be in place prior to the receipt of new fuel for the Fall 1994 refueling outage, SCE&G requests that the proposed license amendment request be issued by August 1, 1994.

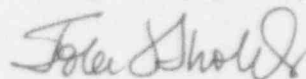
Please note that page 5-6 of the VCSNS Technical Specifications is also affected by Technical Specification Change Request dated 10/29/93 (TSP 930015 letter number RC-93-0272) which is concurrently under review.

The enclosed proposed Technical Specification amendment has been reviewed and approved by both the Plant Safety Review Committee and the Nuclear Safety Review Committee.

I declare that these statements and matters set forth herein are true and correct to the best of my knowledge, information, and belief.

Should you have any questions concerning this issue, please call Mr. Philip A. Rose at (803) 345-4052 at your convenience.

Very truly yours,



John L. Skolds

PAR/JLS/nkk
Enclosures

c: See Page 3

c: O. W. Dixon (w/o Enclosures)
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Central File System
File (813.20)

LIST OF AFFECTED PAGES AND MARKED-UP TECHNICAL SPECIFICATIONS

<u>Page</u>	<u>Specification</u>	<u>Description of Change</u>
3/4 9-14	3.9.12	Changed word 'exposure' to 'burnup' to keep consistent terminology
3/4 9-15	Figure 3.9-1	Revised figure to place restrictions on fuel burnup as a function of initial enrichment, up to 5.0 w/o U235 in Region 2 of the Spent Fuel Pool. Also changed the word 'exposure' to 'burnup'.
3/4 9-16	Figure 3.9-2	Revised figure to place restrictions on fuel burnup as a function of initial enrichment, up to 5.0 w/o U235, in Region 3 of the spent fuel pool. Also changed the word 'exposure' to 'burnup'.
5-6*	5.3.1	Revised fuel assemblies description to permit 5.0 w/o U235 enrichment, and incorporated recommendations from GL 90-02, Supplement 1. Also requires sufficient fuel to contain integral fuel burnable absorbers in order to comply with the requirements of Specification 5.6.1.1.a-2
5-7	5.6.1.1	Revised to clearly delineate the requirements for each region of the spent fuel pool, to add the new minimum burnups as a function of initial enrichment, to permit the storage of 5.0 w/o U235, to add the requirement for K_{∞} .
5-7	5.6.1.2	Revised to permit the storage of 5.0 w/o U235 in the new fuel storage racks, remove the reference to Section 4.3 of the FSAR, add the requirement for K_{∞} .

* Please note that page 5-6 is also affected by Tech Spec Change Request TSP 930015 which is concurrently under review.