May 16, 1990

Docket No. 50-327

Mr. Oliver D. Kingsley, Jr.
Senior Vice President, Nuclear Power
Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dear Mr. Kingsley:

SUBJECT: CORRECTIONS TO AMENDMENT NOS. 138 AND 140 (TS 89-33, 89-25, 89-26) (TAC 75751, 75747, 75749) - SEQUOYAH NUCLEAR PLANT, UNIT 1

By letter dated May 8, 1990, we issued Amendment No. 138 to Facility Operating Licensing DPR-77 for Sequoyah, Unit 1. The amended Sequoyah Technical Specification (TS) Bases page "B 3/4 2-2" had the word "limit" missing from the first paragraph added to this page. A corrected TS page with the word "limit" added to the page is enclosed.

In the letter dated May 11, 1990, we issued Amendment No. 140 to Facility Operating License DPR-77 for Sequoyah, Unit 1. The amended TS pages (1) did not identify that TS page "3/4 2-7a" should be removed with no page added, (2) identified an incorrect amendment number on TS page "B 3/4 2-1", and (3) did not show that Surveillance Requirement 4.5.2.d.1 was deleted in Amendment 139 issued May 9, 1990. Amendment No. 140 also increased the peaking factor limit in the heat flux hot channel factor for Unit 1 instead of reducing the limit, as stated in the letter dated May 11, 1990. The corrected TS pages are enclosed.

We apologize for any inconvenience caused by these errors. If you have any questions, please contact Jack Donohew, Sequoyah Project Manager, at 301-492-0703.

Sincerely,
Original signed by

Suzanne Black, Assistant Director
for Projects
TVA Projects Division
Office of Nuclear Reactor Regulation

Enclosures:
Corrected Pages for Sequoyah, Unit 1

cc w/enclosures:
See next page

OFC	:NRR:TVA/PM	:TVA:AD/P	:	:	:	:
NAME	:JDonohew	:SBlack				
DATE	:5/16/90	:5/16/90			:	:

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CORRECTED PAGES

FACILITY OPERATION LICENSE NO. DPR-77

DOCKET NO. 50-327

Revised the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal line indicating the area of change.

REMOVE	INSERT
3/4 2-7a	- - -
3/4 5-5	3/4 5-5
B 3/4 2-1	B 3/4 2-1
B 3/4 2-2	B 3/4 2-2

SURVEILLANCE REQUIREMENTS (Continued)

	Valve Number	Valve Function	Valve Position
a.	FCV-63-1	RHR Suction from RWST	open
b.	FCV-63-22	SIS Discharge to Common Piping	open

b. At least once per 31 days by:

1. Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and

2. Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

2. Of the areas affected within containment at the completion of each containment entry when CONTAINMENT INTEGRITY is established.

d. At least once per 18 months by:

1. Deleted.

2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.

e. At least once per 18 months, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on a safety injection test signal and automatic switchover to containment sump test signal.

3/4.2 POWER DISTRIBUTION LIMITS

BASES

The specifications of this section provide assurance of fuel integrity during Condition I (Normal Operation) and II (Incidents of Moderate Frequency) events by: (a) maintaining the calculated DNBR in the core at or above design during normal operation and in short term transients, and (b) limiting the fission gas release, fuel pellet temperature and cladding mechanical properties to within assumed design criteria. In addition, limiting the peak linear power density during Condition I events provides assurance that the initial conditions assumed for the LOCA analyses are met and the ECCS acceptance criteria limit of 2200°F is not exceeded.

The definitions of certain hot channel and peaking factors as used in these specifications are as follows:

$F_Q(Z)$ Heat Flux Hot Channel Factor, is defined as the maximum local heat flux on the surface of a fuel rod at core elevation Z divided by the average fuel rod heat flux, allowing for manufacturing tolerances on fuel pellets and rods.

$F^N_{\Delta H}$ Nuclear Enthalpy Rise Hot Channel Factor is defined as the ratio of the integral of linear power along the rod with the highest integrated power to the average rod power.

3/4.2.1 AXIAL FLUX DIFFERENCE (AFD)

The limits on AXIAL FLUX DIFFERENCE assure that the $F_Q(Z)$ upper bound envelope of 2.32 times the normalized axial peaking factor is not exceeded during either normal operation or in the event of xenon redistribution following power changes.

Provisions for monitoring the AFD on an automatic basis are derived from the plant process computer through the AFD Monitor Alarm. The computer determines the one minute average of each of the OPERABLE excore detector outputs and provides an alarm message immediately if the AFD for at least 2 of 4 or 2 of 3 OPERABLE excore channels are outside the allowed ΔI-Power operating space and the THERMAL POWER is greater than 50 percent of RATED THERMAL POWER.

3/4.2.2 and 3/4.2.3 HEAT FLUX AND NUCLEAR ENTHALPY HOT CHANNEL FACTORS

The limits on the heat flux hot channel factor and the nuclear enthalpy rise hot channel factor ensure that 1) the design limits on peak local power density and minimum DNBR are not exceeded and 2) in the event of a LOCA the peak fuel clad temperature will not exceed the 2200°F ECCS acceptance criteria limit.

Each of these hot channel factors is measurable but will normally only be determined periodically as specified in Specifications 4.2.2 and 4.2.3. This periodic surveillance is sufficient to insure that the limits are maintained provided:

a. Control rods in a single group move together with no individual rod insertion differing by more than $\pm$ 13 steps from the group demand position.

b. Control rod groups are sequenced with overlapping groups as described in Specification 3.1.3.6.

c. The control rod insertion limits of Specifications 3.1.3.5 and 3.1.3.6 are maintained.

d. The axial power distribution, expressed in terms of AXIAL FLUX DIFFERENCE, is maintained within the limits.

The $F^N_{\Delta H}$ limit as a function of THERMAL POWER allows changes in the radial power shape for all permissible rod insertion limits. $F^N_{\Delta H}$ will be maintained within its limits provided conditions a thru d above, are maintained.

When an F_Q measurement is taken, both experimental error and manufacturing tolerance must be allowed for. The 5% is the appropriate allowance for a full core map taken with the incore detector flux mapping system and 3% is the appropriate allowance for manufacturing tolerance.

When an $F^N_{\Delta H}$ is measured, experimental error must be allowed for and 4% is the appropriate allowance for a full core map taken with the incore detection system. The specified limit for $F^N_{\Delta H}$ also contains an 8% allowance for uncertainties which mean that normal operation will result in $F^N_{\Delta H} \leq$ 1.55/1.08. The 8% allowance is based on the following considerations.

a. abnormal perturbatios in the radial power shape, such as from rod misalignment, effect $F^N_{\Delta H}$ more directly than F_Q.

b. although rod movement has a direct influence upon limiting F_Q to within its limit, such control is not readily available to limit $F^N_{\Delta H}$, and

c. errors in prediction for control power shape detected during startup physics test can be compensated for in F_Q by restricting axial flux distribution. This compensation for $F^N_{\Delta H}$ is less readily available.