



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

April 14, 1989

Inadvertently submitted
with March 14th date.

Docket Nos. 50-327/328

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: CORE SHUTDOWN MARGIN (TAC R00398, R00399) - SEQUOYAH NUCLEAR PLANT,
UNITS 1 AND 2

By letter dated July 14, 1988, the Tennessee Valley Authority (TVA) submitted a Licensee Event Report (LER 50-328/88-030) on the effects of excessive reactor cooldown following a reactor scram on shutdown margin in the cores for Sequoyah, Units 1 and 2. This LER applied to Unit 1 Core 4 and Unit 2 Core 3. Unit 1 was preparing to begin Cycle 4 operation and Unit 2 was in Cycle 3 operation. The number assigned to the core for each unit is the Cycle the unit is currently in or preparing to enter when the unit returns to power.

The staff conducted an inspection on this subject during July 11-14, 1988, reviewed the above LER and reviewed TVA's letter of August 31, 1988. The staff concluded in its letter dated September 30, 1988, that the compensatory measures put in place by TVA adequately addressed the effects of excessive cooldown on shutdown margins and that no unresolved safety issue existed. This conclusion was only for the short term in that it was limited to Unit 2 Core 3 operation and to the restart of Unit 1 Core 4 in November 1988. This was because TVA relied on operator action to compensate for known deficiencies in plant design or maintenance.

This letter will address the long-term operation of the Unit 1 Core 4 and the current restart of Unit 2 from its Cycle 3 refueling outage.

By letters dated October 5 and 14, 1988, TVA provided details of its long-term corrective action program to assure that a reactor cooldown from a scram does not result in a violation of the requirements in the Technical Specifications on minimum core shutdown margin. TVA also addressed this program in the LER 50-327/88-045-01 dated January 25, 1989 on the reactor cooldown following the scram of Unit 1 on November 18, 1988.

Based on the enclosed Safety Evaluation (SE), the staff concludes that the procedural, hardware and training enhancements implemented and committed to by TVA will provide reasonable assurance that adequate shutdown margin will be maintained at Sequoyah. This conclusion is predicated on the successful and

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prompt completion of the additional longer-term corrective actions discussed in the enclosed SE and on continuing successful performance in maintaining coolant temperature after future trips.

The staff notes that certain other commitments in the broader areas of post-trip review, LER review, control and review of vendor documents and review of emergency operating procedures were made in TVA's various submittals and presentations on shutdown margin. Although these commitments are not directly relevant to the technical resolution of the immediate issue and are not discussed above, their implementation is considered part of the corrective action necessary to resolve the Notice of Violation on this subject issued by the NRC on September 12, 1988.

This closes out the staff review of this shutdown margin issue. You are requested to inform us, within 30 days of completion, when you have completed the additional longer term corrective actions discussed in the enclosed SE and have implemented the commitment areas of post-trip review, LER review, control and review of vendor documents and review of emergency operating procedures.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P. L. 96-511.

Sincerely,

J. Donohew for

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

Enclosure:
Safety Evaluation

cc w/enclosure:
See next page

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