

# REGULATORY DOCKET FILE COPY

NOV 14 1980

Docket Nos. 50-390  
and 50-391

MA/4

Mr. H. G. Parris  
Manager of Power  
Tennessee Valley Authority  
500A Chestnut Street Tower II  
Chattanooga, Tennessee 37401

Dear Mr. Parris:

SUBJECT: CLARIFICATION OF TMI-RELATED REQUIREMENTS FOR NEW OPERATING LICENSES  
REQUIREMENT FOR TRAINING DURING LOW POWER TESTING

The first special low power test program was developed by TVA, approved by the staff, and completed at the Sequoyah Nuclear Power Station. However, it was not the intention of NRC to obligate all succeeding applicants to the Sequoyah program. The purpose of this letter is to indicate our minimum requirements for an acceptable program of training during low power testing for PWRs which will provide the basis for future test programs.

With respect to the subject TMI-related requirements, NUREG-0694 issued in June 1980, stated that applicants for new operating licenses will:

Define and commit to a special low-power testing program approved by NRC to be conducted at power levels no greater than 5 percent for the purposes of providing meaningful technical information beyond that obtained in the normal startup test program and to provide supplemental training (Part 1, Paragraph I.G.1);

Obtain nuclear steam supply system (NSSS) vendor review of low power testing procedures to further verify their adequacy. This requirement must be met before fuel loading (Part 1, Paragraph I.C.7); and

Supplement operator training by completing the special low power test program. Tests may be observed by other shifts or repeated on other shifts to provide training to the operators. This requirement shall be met before issuance of a full-power license (Part 2, Paragraph I.G.1).

The above requirements are incorporated in Enclosure 2 to NUREG-0737, issued October 31, 1980, as "Requirements Issued 6/26/80."

NUREG-0694 also stated that for "later operating license applicants" (those subsequent to the 'NTOLS') "the staff intends to conduct one operating license

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H. G. Parris

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review by combining the fuel-loading and full-power testing requirements into a single set of operating license requirements." Our safety evaluation report on your facility will include our complete evaluation of the special low power test program including details of the supplemental operator training you commit to perform.

Your program, as submitted for our review, should provide for the following:

Each licensed reactor operator (RO or SRO who performs RO or SRO duties, respectively) should experience the initiation, maintenance and recovery from natural circulation mode, using nuclear heat to simulate decay heat. Operators should be able to recognize when natural circulation has stabilized, and should be able to control saturation margin, RCS pressure, and heat removal rate without exceeding specified operating limits.

These tests should demonstrate the following plant characteristics: length of time required to stabilize natural circulation, core flow distribution, ability to establish and maintain natural circulation with or without onsite and off site power, and the ability to uniformly borate and cool down to hot shutdown conditions using natural circulation. The latter demonstration may be performed using decay heat following power ascension and vendor acceptance tests, and need only be performed at those plants for which the test has not been demonstrated at a comparable prototype plant.

Our approval of your program will be subject to conformance with the above requirements and the following criteria:

The tests should not pose an undue risk to the public.

The risk of equipment damage must be low.

The format for your procedures should be consistent with Regulatory Guide 1.68. The procedures and your safety evaluation for your program should be submitted to I&E and NRR at least four weeks prior to the date of performing the tests.

The results of the special low power tests should be documented as part of the "Startup Test Report" (see Regulatory Guide 1.16).

Sincerely,

Original signed by

Robert L. Tedesco, Assistant Director  
for Licensing  
Division of Licensing

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Sincerely,

Darrell G. Eisenhut, Director  
Division of Licensing

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