

September 1, 1983

Docket No. 50-328

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

Dear Mr. Parris:

Subject: Request for Additional Information Regarding  
Sequoyah Unit 2 Cycle 2 Fuel Reload Package

The NRC staff has prepared the enclosed request for additional information regarding the Cycle 2 reload for Sequoyah Nuclear Plant, Unit 2. Please respond to these questions by September 9, 1983, in order to support your October 1983 startup date.

If you have any questions concerning this matter, please contact the project manager, C. Stahle, at (301) 492-7317.

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,

*ES*  
Elinor G. Adensam, Chief  
Licensing Branch No. 4  
Division of Licensing

Enclosure:  
As stated

cc: See next page

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P PDR

OFFICE	DL:LB #4	LA:DL:LB #4	DL:LB #4			
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DATE	8/27/83	8/1/83	9/1/83			

SEQUOYAH

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Resident Inspector/Sequoyah NPS  
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Commission  
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James P. O'Reilly, Regional Administrator  
U.S. Nuclear Regulatory Commission,  
Region II  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

### QUESTIONS ON SEQUOYAH UNIT 2 CYCLE 2 RELOAD

1. Please complete Table 1 of the Reload Safety Evaluation Report (RSER) by listing the approximate expected end-of-cycle-2 burnup for each of the fuel regions.
2. It is stated on page 2 of the RSER that Wet Annular Burnable Absorber (WABA) rods are to be used. It is our understanding that Westinghouse will implement a surveillance program, details of which are described in the NRC safety evaluation of the WABA topical report, for the first two plants to utilize WABAs. Please confirm whether Sequoyah 2 is subject to and will follow the provisions of that surveillance program.
3. During a recent refueling of McGuire Unit 1, several broken Non-Fuel Bearing Component (NFBC) holddown springs were discovered. Some of the springs had double fractures "such that a ... section might move ... into the flow of the coolant system" (according to Reportable Occurrence Report No. 369/83-11). It is our understanding that Sequoyah Unit 2 has 94 NFBC holddown springs of the same design as McGuire's and which, therefore, may be subject to the same failure mode. Aside from the potential effects of loose parts, broken holddown springs could have an impact on UHI flow, with resultant effects on the LOCA peak cladding temperatures.

Therefore, with regard to the potential effects on Cycle 2 operation, discuss the results of post-irradiation examinations of the NFBC holddown springs during the current refueling outage. How many broken springs were observed? How many had double fractures? Discuss the cause and remedy of such failures. For Cycle 2 operation, either provide reasonable assurance that broken springs will not occur or show that the potential effects of loose parts, UHI flow restrictions, and increases LOCA peak cladding temperature are insignificant.

4. Discuss the "minor grid modifications" and "reconstitutable bottom nozzle" design changes for Region 4 (Reload 1) fuel from the standpoint of their origin, rationale, and data supporting their use.

5. Region 4 fuel is said in the RSER to have been designed in accordance with the fuel performance model in WCAP-8785. That model (PAD 3.3) was approved subject to certain restrictions identified in the NRC Staff's SER on the WCAP report. In an addendum to the report, the restrictions were revised but still apply in areas dealing with gap conductance, fuel/cladding surface roughness, and cladding creep. Please state whether these restrictions were adhered to in the analysis of Sequoyah 2 Cycle 2 fuel.
6. The RSER indicates that the Westinghouse fuel rod internal pressure design basis, as described in WCAP-8964, is satisfied. As noted in the NRC staff's safety evaluation of that report, however, the proposed revised criterion is not sufficient to assure acceptable consequences for transient and accident conditions, and an amended criterion was eventually approved by the staff. Please state whether the amended criterion is satisfied for Cycle 2 operation of Sequoyah 2, and if that criterion as provided in a May 19, 1978 letter from J. Stolz (NRC) to T. M. Anderson (W) is not satisfied, provide justification.