



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

May 11, 1988

Docket No. 50-260

Mr. S. A. White
Manager of Nuclear Power
Tennessee Valley Authority
6N 38A Lookout Place
Chattanooga, Tennessee 37402-2801

Dear Mr. White:

SUBJECT: FUEL INSPECTION AND RECONSTITUTION FOR BROWNS FERRY, UNIT 2

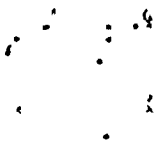
By letter dated April 11, 1988, we transmitted to you a Safety Evaluation pertaining to seismic qualifications of secondary containment penetrations. Our analysis also included an evaluation of the proposed fuel inspection and reconstitution activities for Browns Ferry, Unit 2. We concluded that the proposed fuel inspection and reconstitution activities were acceptable in the context of the issues involving adequacy of the Unit 2 secondary containment and the proposed control measures to be implemented prior to and during the fuel pin inspection and reconstitution work.

A major assumption relied upon in your submittal is that the reconstitution effort would not significantly change the nuclear characteristics of the fuel assemblies and, therefore, the reload core analysis, reload Technical Specifications and the NRC reload Safety Evaluation of August 19, 1986 would remain valid. Due to initial findings of your fuel inspection efforts, verification that the reconstitution effort has not changed your core reload analysis is required prior to Unit 2 fuel reload. To determine early detection of potential core reload reanalysis problems, you need to document your criteria and methods of accounting for fuel pin replacement. Two areas of accountability are of concern. The first is the nuclear makeup of the reconstituted fuel to be placed in the reactor. The second is a record of the disposition of fuel to casks or to assemblies from where doner rods were removed.

The staff requires documentation of fuel assembly characteristics including a key for location of fuel rods and tables describing the reconstituted bundle rods and the doner bundle rods. We also require your description of the method to be used to address the age and storage effects on fuel performance and TVA criteria which would support your position that a revised reload analysis would not be required as a result of the reconstitution program. We will review your documentation and criteria for acceptability.

In addition, we request you respond to the enclosed questions concerning accountability of Special Nuclear Material (SNM) with respect to your reconstitution effort.

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Mr. S. A. White

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The responses to the questions contained in our request are required within 30 days from the date of the letter.

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.

If you have any questions, concerning this letter, please contact your Project Manager, G. Gears at (301) 492-0767 or Lead Technical Reviewer, J. Watt at (301) 492-0793.

Sincerely,

ORIGINAL SIGNED BY

Robert A. Hermann, Acting Assistant Director
TVA Projects Division
Office of Special Projects

Enclosure:
Questions Concerning Accountability
of Special Nuclear Materials

cc w/enclosure:
See next page

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ENCLOSURE

QUESTIONS CONCERNING ACCOUNTABILITY
OF SPECIAL NUCLEAR MATERIALS
BROWNS FERRY, UNIT 2

1. Before disassembly operations are actually initiated -- involving any fuel assembly to be inspected or any donor fuel assembly -- the total SNM content of each fuel assembly must be determined and recorded. Such total SNM content (i.e., total uranium element, U-235 and total plutonium element) shall be the original fuel fabricator's value corrected for burn-up and transmutation.
2. The SNM content assigned to any individual fuel pin (rod) removed from a parent fuel assembly shall be the total assembly SNM content (from 1 above) divided by the number of fuel rods in the assembly.
3. The revised total SNM content assigned to each reconstituted fuel assembly and each donor assembly shall be the value established in Step 1 minus the value of each fuel rod removed plus the value for each rod added (with rod values being those determined from Step 2).
4. The SNM content assigned to any container used to store damaged fuel rods shall be the summation of the individual rod values for those rods in the container. If the individual fuel rods are not uniquely identified, only rods from a single assembly shall be stored within a given container, and the container must be uniquely identified.
5. Adequate documentation and records shall be maintained to provide traceability of all assigned SNM values.



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Mr. S. A. White
Tennessee Valley Authority

Browns Ferry Nuclear Plant
Units 1, 2, and 3

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