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NRC Section Chief: Allen G. Howe.

Tennessee Valley Authority (TVA), Docket No. 50-390 Watts Bar Nuclear Plant, Unit 1, Rhea County, Tennessee

Date of amendment request: February 14, 2003.

Description of amendment request:

The proposed amendment would revise the Technical Specifications (TS) for Watts Bar Nuclear Plant (WBN), Unit 1. The proposed TS change would allow WBN Unit 1 to be refueled and operated using the Westinghouse 17x17 Robust Fuel Assembly-2 (RFA-2) design commencing with Cycle 6 in September 2003.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated.

No. The Loss of Coolant Accident (LOCA) and non-LOCA transients and accidents which are potentially affected by the parameters and assumptions associated with the use of RFA-2 (including the effects of Tritium Producing Burnable Absorber Rods, TPBARs) have been evaluated/analyzed and all design standards and applicable safety criteria are met. The consideration of these changes does not result in a situation where the design material, and construction standards that were applicable prior to the change are altered. Therefore, the changes occurring with the use of RFA-2 will not result in any additional challenges to plant equipment that could increase the probability of any previously evaluated accident.

The changes associated with the use of RFA-2 do not affect plant systems such that their function in the control of radiological consequences is adversely affected. TVA's evaluation documents that the design standards and applicable safety criteria limits continue to be met and, therefore, fission barrier integrity is not challenged. The fuel rod design (the first fission product barrier) is not changed. Compared to the current grid design on the resident fuel, the RFA-2 grid design provides improved resistance to fuel rod fretting. The RFA-2 fuel changes have been shown not to adversely affect the response of the plant to postulated accident scenarios. These changes will therefore not affect the mitigation of the radiological consequences of any accident described in the Final Safety Analysis Report (FSAR).

Therefore, since the actual plant configuration, performance of systems, and initiating event mechanisms are not being changed as a result of this evaluation, TVA has concluded that the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated.

No. The possibility for a new or different type of accident from any accident previously evaluated is not created since the changes associated with the use of RFA-2 do not result in a change to the design basis of any plant component or system. The evaluation of the effects of the use of RFA-2 shows that all design standards and applicable safety criteria limits are met. Specifically, the results of the evaluations/analyses lead to the following conclusions:

1. The RFA-2 fuel design for Watts Bar Unit 1 is mechanically compatible with the current fuel assemblies, core components, the control rods and the reactor internals interfaces.

2. The structural integrity of the RFA-2 fuel design has been evaluated for seismic/LOCA loadings for Watts Bar Unit 1. Evaluation of the RFA-2 fuel assembly component stresses and grid impact forces due to postulated faulted condition accidents verified that the fuel assembly design is structurally acceptable.

3. The changes to the nuclear characteristics due to the transition to the RFA-2 fuel assembly design will be within the range normally seen from cycle to cycle due to fuel management.

4. The RFA-2 fuel assembly design is hydraulically compatible with the current fuel assemblies.

5. The core design and safety analyses documented in this report demonstrate the capability of the core to operate safely at the rated Watts Bar Unit 1 design thermal power with either a mixed core of RFA-2 fuel and the current fuel product or with a full core of RFA-2 fuel.

6. TVA's amendment request establishes a reference upon which to base Westinghouse reload safety evaluations for future reloads with the RFA-2 fuel assembly design.

7. Reload core designs with either a mixed core of RFA-2 fuel and the current fuel product or with a full core of RFA-2 fuel are compatible with the planned introduction of Tritium-Producing Burnable Absorber Rods (TPBARs) into Watts Bar Unit 1.

These changes therefore do not cause the initiation of any accident nor create any new failure mechanisms. All equipment important to safety will operate as designed. Component integrity is not challenged. The changes do not result in any event previously deemed incredible being made credible. The use of RFA-2 is not expected to result in more adverse conditions and is not expected to result in any increase in the challenges to safety systems.

Therefore, TVA concludes that this proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety.

No. The margin of safety is maintained by assuring compliance with acceptance limits reviewed and approved by the NRC. All of the appropriate acceptance criteria for the various analyses and evaluations have been met, therefore, there has not been a reduction in any margin of safety.

Therefore, TVA concludes that the proposed change does not involve a significant reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

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Notice of Issuance of Amendments to Facility Operating Licenses

During the period since publication of the last biweekly notice, the Commission has issued the following amendments. The Commission has determined for each of these amendments that the application complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR chapter I, which are set forth in the license amendment.

Notice of Consideration of Issuance of Amendment to Facility Operating License, Proposed No Significant Hazards Consideration Determination, and Opportunity for A Hearing in connection with these actions was published in the **Federal Register** as indicated.

Unless otherwise indicated, the Commission has determined that these amendments satisfy the criteria for categorical exclusion in accordance with 10 CFR 51.22. Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared for these amendments. If the Commission has prepared an environmental assessment under the special circumstances provision in 10 CFR 51.12(b) and has made a determination based on that assessment, it is so indicated.

For further details with respect to the action *see* (1) the applications for amendment, (2) the amendment, and (3) the Commission's related letter, Safety Evaluation and/or Environmental Assessment as indicated. All of these items are available for public inspection at the Commission's Public Document Room, located at One White Flint North, Public File Area 01F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible from the Agencywide