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September 2, 1983

Docket No. 50-364

Director, Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. S. A. Varga

Joseph M. Farley Nuclear Plant - Unit 2
Cycle-3 Reload

Gentlemen:

Farley Unit 2 is currently in its second cycle of operation with a refueling outage scheduled to commence in mid-September 1983. Second cycle operation will be terminated within a cycle burnup range of 9,000 to 11,000 MWD/MTU. This letter is to advise you of Alabama Power Company's review of the Farley Unit-2 Cycle-3 core reload design and plans regarding its implementation.

The Farley Unit-2 Cycle-3 core reload was designed to perform within the current nominal design parameters, Technical Specifications and related bases, and current setpoints. A total of 41 Region-3, 52 Region-4, and 64 fresh Region-5 fuel assemblies will be inserted at the refueling outage. The mechanical, nuclear and thermal-hydraulic design of the Region-5 fuel assemblies is identical to the design of the previous region except for top and bottom end plug design modifications, increased fuel tubing length, and increased plenum spring length. These changes are related to the reconstitutable fuel assembly development, are generic in nature to the 17x17 fuel assembly, and are not reload dependent.

Alabama Power Company has performed a detailed review of the Westinghouse Reload Safety Evaluation Report (RSER) for Farley Unit-2 Cycle-3, including all postulated incidents considered in the FSAR and the Westinghouse fuel densification report, WCAP-8219, "Fuel Densification Experimental Results and Model for Reactor Operation." The RSER included a review of the core characteristics to determine those parameters affecting the postulated accident analyses reported in the Farley FSAR. Alabama Power Company concluded that Cycle-3 design

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parameters are conservative with respect to those assumed in the previous analyses; therefore, no accident was reanalyzed based on Cycle-3 parameters. This verification is consistent with the Westinghouse reload safety evaluation methodology as outlined in the March 1978 Westinghouse topical report entitled, "Westinghouse Reload Safety Evaluation Methodology," (WCAP-9272).

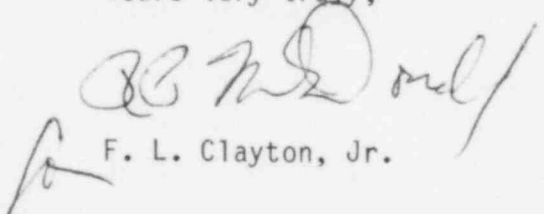
The reload safety evaluation demonstrated that Technical Specification changes are not required for operation of Farley Unit-2 during Cycle-3. Alabama Power Company's Plant Operation Review Committee has concluded that no unreviewed safety questions defined by 10CFR50.59 are involved with this reload. The reload safety evaluation will be reviewed by the Nuclear Operations Review Board at the scheduled September meeting. Therefore, based on this review, an application for amendment to the Farley Unit-2 operating license is not required.

Verification of the reload core design will be performed per the standard startup physics tests normally performed for Westinghouse PWR reload cycles. These tests will include, but not be limited to, measurements of:

- (1) Control rod drop time;
- (2) Critical boron concentration;
- (3) Control rod bank worth;
- (4) Moderator temperature coefficient;
- (5) Startup power distribution using the incore flux mapping system.

Results of these tests and a core loading map will be submitted within ninety (90) days after startup of Cycle-3.

Yours very truly,



F. L. Clayton, Jr.

FLCJr/MDR:1sh-D4

cc: Mr. R. A. Thomas
Mr. G. F. Trowbridge
Mr. J. P. O'Reilly
Mr. E. A. Reeves
Mr. W. H. Bradford
Dr. I. L. Myers