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Alabama Power
the southern electric system

March 26, 1984

Docket No. 50-348

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

Attention: Mr. S. A. Varga

Joseph M. Farley Nuclear Plant - Unit 1
Revised Cycle-6 Reload Design

Gentlemen:

Farley Unit 1 is currently in its fifth refueling outage with startup scheduled for mid-April. The fifth cycle of operation was terminated at a cycle burnup of 11,100 MWD/MTU. By letter dated February 10, 1984, F. L. Clayton, Jr. to S. A. Varga, Alabama Power Company advised you of its initial plans for Cycle-6. This letter is to advise you of Alabama Power Company's review of the Farley Unit 1 revised Cycle-6 core reload design and plans regarding its implementation. This revision was necessary to accommodate a minor loading pattern change associated with replacement of two leaking fuel assemblies.

The Farley Unit 1 revised Cycle-6 core reload was designed to perform within the currently approved nominal parameters and Technical Specifications with related bases and setpoints. A total of 2 Region-4, 38 Region-6, 50 Region-7, and 77 fresh Region-8 assemblies will be inserted during this refueling outage. The mechanical, nuclear and thermal-hydraulic design of the Region-8 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. Each of these changes is related to the reconstitutable fuel bundle development, is generic in nature to the 17X17 fuel assembly, and is not reload dependent.

Alabama Power Company has performed a detailed review of the Westinghouse Reload Safety Evaluation Report (RSER) for Farley Unit 1 Cycle-6, including all postulated incidents 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

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parameters affecting the postulated accident analyses reported in the Farley FSAR. Alabama Power Company concluded that revised Cycle-6 design parameters are conservative with respect to those assumed in the previous analyses; therefore, no accident was reanalyzed based on Cycle-6 parameters. This verification is consistent with the Westinghouse reload safety evaluation methodology as outlined in the March 1978 topical report entitled, "Westinghouse Reload Safety Evaluation Methodology," (WCAP-9272).

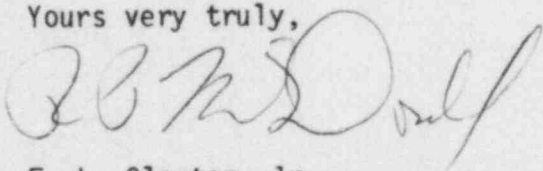
The reload safety evaluation demonstrated that Technical Specification changes are not required for operation of Farley Unit 1 during Cycle-6. Alabama Power Company's Plant Operations Review Committee and Nuclear Operations Review Board have concluded that no unreviewed safety questions defined by 10CFR50.59 are involved with this reload. Therefore, based on this review, an application for an amendment to the Farley Unit 1 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 approximately ninety (90) days after startup of Cycle-6.

Yours very truly,


F. L. Clayton, Jr.

FLCJr/MDR:lsh-D5

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