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Docket Nos. 50-348
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 - Units 1 & 2
Technical Specification Amendment to T.S. 3/4.1.3
Movable Control Assemblies

Gentlemen:

Alabama Power Company submitted a proposed change to the Farley Nuclear Plant Technical Specifications on March 4, 1983, requesting a change to the movable rod control system requirements. Supplemental letters dated June 3, and July 28, 1983, provided additional information as requested by the NRC staff. In letter dated September 21, 1983, the NRC stated that core-wide mechanical problems were not adequately addressed by the proposed change. Alabama Power Company hereby clarifies the previous submittals such that final resolution of this request can be attained.

The issue raised by the NRC in the September 21, 1983 letter was the concern that core-wide mechanical problems (e.g., core barrel shift) could cause all the movable rods to become immovable such that the proposed technical specification change would allow continued plant operation without taking emergency measures. Alabama Power Company in conjunction with Westinghouse has determined that there is no feasible generic mechanical problem, short of core barrel shift, reactor internals failure or partial core melt, that could result in multiple movable rod failures. The probability of core barrel shift, reactor internals failure or partial core melt is extremely low and has been adequately addressed in the licensing basis for the Farley Nuclear Plant.

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In order to resolve the mechanical problem issue, Alabama Power Company proposes to modify the wording of the requested technical specification change as follows:

1. Require repair of the immovable rods within 12 hours and demonstration of the operability of 75% of the control rods by use of the rod control system within 6 hours if the cause of the immovable rods is due to an electrical problem within the power cabinets (ACTION statement 3.1.3.1c.3).

2. Require repair of the immovable rods within 12 hours if the cause of the immovable rods is due to an electrical problem not within the power cabinets, e.g., a logic cabinet problem (ACTION statement 3.1.3.1c.4).

3. Require plant shutdown within 6 hours if the cause of the immovable rods is not an electrical problem, e.g., a mechanical core-wide problem (ACTION statement 3.1.3.1d).

As previously discussed in the March 4, June 3 and July 28, 1983 letters, the failure of the rod control system will not affect the capability to trip the rods. Furthermore, any failure in the rod control system will not affect continued safe operation of the plant provided that the other technical specifications regarding rod position (ACTION statement 3.1.3.1b) and rod insertion limits (ACTION statement 3.1.3.1c.2) are met. Therefore, the proposed technical specification change does not affect safe operation of the Farley Nuclear Plant.

The basis for requiring demonstration of the operability of 75% of the movable rods following an electrical problem in the power cabinets of the rod control system is that each power cabinet supplies power to 25% of the rods. Any single failure in a power cabinet would disable no more than 25% of the rods. The demonstration of operability of the remaining 75% of the rods will provide added assurance that a mechanical problem does not exist.

The basis for requiring repair of the rod control system within 12 hours following an electrical problem other than in the power cabinets of the rod control system is that a single electrical failure in such locations as the logic cabinet could prevent normal control system movement of all control rods. The logic cabinet interfaces with all the power cabinets in the rod control system such that a failure could affect all rods. Such a failure would not affect the trip system portion of the movable rods but could prevent demonstration of the operability of the movable rods. The 12 hour limit should be sufficient to allow repair of most credible electrical problems occurring outside the power cabinets.

The existing technical specification requires a plant trip from full power if a rod control system problem cannot be identified and corrected in an inordinately short period of time (i.e., 6 hours). As a result, rod control system repairs have been performed with unreasonable haste in order to avoid tripping from full power which would result in unnecessary transients in the reactor coolant system and the secondary system and unnecessary challenges to the plant safety systems. The reason that tripping is the only alternative, when rod control system problems affect more than one rod occur, is that use of the control and shutdown rods for controlled shutdown would not be in accordance with presently analyzed shutdown procedures. Any attempt at a controlled shutdown with more than one rod inoperable would result in violating other technical specifications, i.e., rod misalignment and rod insertion limits. Alabama Power Company prefers to be given an opportunity to repair a rod control system problem rather than being required to possibly trip the plant from full power when no concern with continued safe operation is involved.

Alabama Power Company believes that the supplemental information provided herein resolves the issues raised by the NRC in the September 21, 1983 letter. Since the existing Farley Nuclear Plant Technical Specifications could require unnecessary plant trips from full power as discussed above, Alabama Power Company requests that NRC review and approve this proposed technical specification change by November 1, 1983.

Yours truly,

F. L. Clayton, Jr.

FLCJr/GGY:grs-D4
Attachment
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