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July 6, 1984

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 and 2
Inadequate Core Cooling Instrumentation System

Gentlemen:

In a letter dated May 11, 1984, Alabama Power Company committed to install either the Combustion Engineering (CE) or Technology for Energy Corporation (TEC) reactor vessel level system at the Farley Nuclear Plant within three refueling outages which will be no later than the first refueling outage after January 1, 1987 for each unit. Following the NRC's review of the May 11, 1984 letter, the NRC requested during a recent conversation that Alabama Power Company provide its plan of action for selection of a reactor vessel level system. Alabama Power Company intends to issue bid specifications to CE and TEC for competitive bids by early July 1984. This will ensure the purchase of a system that is technically acceptable, cost effective and capable of being installed on an expedited schedule. Alabama Power Company plans to issue a purchase order for a reactor vessel level system in September 1984.

CE has received NRC generic approval for installation as documented by NUREG/CR-2627. The TEC system has been approved for qualification testing by NRC letter dated July 15, 1983. Alabama Power Company has begun the competitive bid process and has held meetings with the vendors to discuss the design, installation and maintenance of these systems. Special emphasis was placed on the integration of the reactor vessel level system with core-exit thermocouples and subcooling margin monitor in order to develop a core cooling instrumentation system which satisfies the provisions of NUREG-0737 and Generic Letter 82-28 dated December 10, 1982.

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Alabama Power Company concurs with and is committed to the objectives of NUREG-0737 to ensure that the Farley Nuclear Plant - Units 1 and 2 can detect the approach to inadequate core cooling. This commitment has been demonstrated by Alabama Power Company's initiative to participate in a pilot project for the non-invasive reactor vessel level system. The unsuccessful demonstration of the non-invasive reactor vessel level system made it necessary to conduct a detailed review of other available reactor vessel level systems. As a result of this review, Alabama Power Company is convinced that the CE system will provide a functional means to detect the approach to inadequate core cooling and satisfy the applicable NRC regulatory requirements. Alabama Power Company has also determined that TEC has a vessel level monitor instrument that is currently undergoing full prototype testing for Arkansas Power and Light and which may also prove to be acceptable for installation at the Farley Nuclear Plant. Based on discussion with TEC, it has been determined that this system may be significantly less expensive and may require one less refueling outage to install than the CE system. The disadvantages of the TEC system are that this system is still undergoing qualification testing at Oak Ridge National Laboratories and has not been installed in a commercial nuclear plant. The initial installation and operational testing of the TEC system at Arkansas Nuclear One, scheduled for early 1985, will determine the acceptability of the system. If the TEC system were selected on the basis of cost and reduced installation schedule, and later determined to be unacceptable, then Alabama Power Company would take necessary actions to provide installation of the CE system no later than the first refueling outage after January 1, 1987. However, in the judgement of Alabama Power Company, the potential reduction in the installation schedule and cost justifies the consideration of TEC as a possible reactor vessel level system vendor.

The vessel level system selected from the competitive bid process will be installed at Farley Nuclear Plant within three refueling outages for each unit: one refueling outage would be required for design walkdown and two refueling outages would be required for installation. Attachment 1 presents the anticipated milestones for such installation. Installation of a reactor vessel level system is planned to be completed by the end of the Unit 1 8th refueling outage (March 1988) and the Unit 2 5th refueling outage (October 1987). This schedule could be reduced if the evaluation from the competitive bid process determines TEC to be a viable alternative and capable of providing a system that can be installed in only two refueling outages at each unit.

This schedule is based on typical five-week refueling outages with 90% operating capacity factors not including refueling outage periods. It is the philosophy of Alabama Power Company that only refueling related work should be performed on the outage critical path unless an urgent safety issue is involved. All refueling outage work has been identified in the Farley Nuclear Plant Integrated Schedule for Licensing, Design and Maintenance (excluding reactor vessel level) which was transmitted to the NRC in letter dated May 11, 1984. This integrated schedule includes implementation of commitments related to IE Bulletins, Generic Letters, 10CFR50 provisions, including Environmental Qualification and Appendix R, and other NUREG-0737 activities. Installation of the reactor vessel level system must be coordinated with other outage activities associated with refueling manipulations, design modifications and maintenance. Modifications required to address current licensing commitments already constitute two-thirds of the planned modification work for the next two refueling outages for each unit. Reactor vessel level work would be in addition to these activities. Prior to installation, all modifications must be pre-planned and packaged. This includes the completion of design reviews, assessment of manpower requirements, identification of field procurement, planning of acceptance testing and receipt of all material onsite one month prior to the outage.

It is our judgement that the safe operation of Farley Nuclear Plant - Units 1 and 2 will not be jeopardized during the three refueling outage interval necessary for the competitive bid process and installation of the selected reactor vessel level system as described herein. The purpose for reactor vessel level instrumentation is to enhance the present emergency response capabilities and not to provide the sole safety function. The Westinghouse Owners Group has submitted emergency operating guidelines to the NRC for review that include the techniques to be used in lieu of reactor vessel level indication. The existing means to detect inadequate core cooling in lieu of reactor vessel level indication at Farley Nuclear Plant include use of subcooling margin monitor, pressurizer level instrumentation and core-exit thermocouples.

Yours truly,



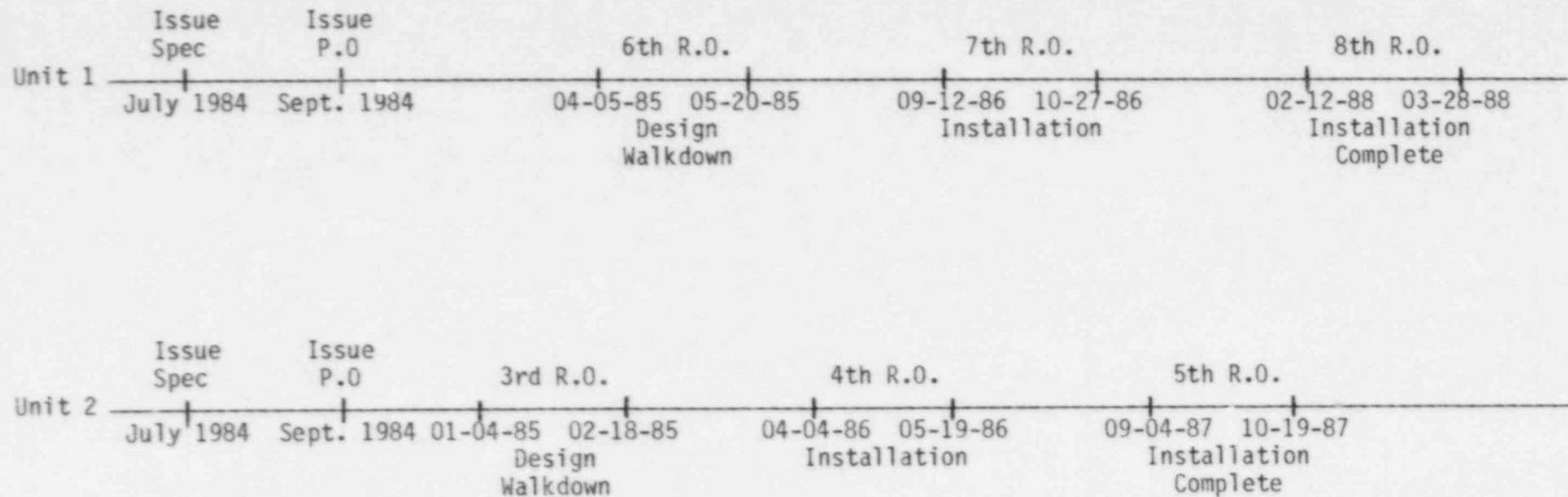
R. P. McDonald

RPM/BHW:grs-D2
Attachment

cc: Mr. L. B. Long
Mr. J. P. O'Reilly
Mr. E. A. Reeves
Mr. W. H. Bradford

Attachment 1

Milestones for Installation of the
Reactor Vessel Level System



This anticipated refueling schedule is based on typical five week durations for refueling with 90% operating capacity factors for fuel cycle and other licensing requirements and plant initiatives.