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May 31, 1977
K. D. [Signature]

Mr. Edson Case, Acting Director
 Office of Nuclear Regulation
 U.S. Nuclear Regulatory Commission
 Washington, D.C. 20555

Subject: Reactivity Additions During Reactor Startups

RECEIVED JUN 23 1977

Dear Mr. Case:

Recently, Dresden Unit 2 and Monticello experienced excessively high rates of power increase (short periods) during reactor startups. These rapid power increases were caused by high control rod notch worths with the reactor in a peak xenon condition. In both cases the power transient was terminated by an automatic Intermediate Rate trip.

On April 14, 1977 the NRC issued I E Circular 77-07 which discussed the Monticello and Dresden incidents and recommended the following actions:

"These events indicate a need for all licensees of operating BWRs to review their startup procedures and practices to assure that their operating staff has adequate information to perform reactor startups avoiding such short periods in the event that the above-described conditions of peak xenon with no moderator voids exist at the time of startup. Operators should be made aware that extremely high rod notch worths can be encountered under these conditions. The procedures should include requirements for a thorough assessment following the occurrence of a short period before any further rod withdrawals are made. These considerations should be included in the operator training and requalification training programs".

We are frankly disturbed by these ill defined recommended actions which essentially permit reactors to continue to operate with control rod patterns and rod notch worths which, in the absence of equipment failure or operator error, could result in short reactor periods which the operator cannot control. We strongly feel that under no circumstances during normal operations should the withdrawal of any rod be permitted if it will result in an uncontrollable power excursion.

Mr. Edson Case
Acting Director

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What is most disturbing about the NRC position is its apparent reliance on the automatic protection system (intermediate rate trip in this case) instead of insisting that design changes be made or that technical specifications and procedure changes be adopted that would specifically preclude the use of certain control rod patterns and limit the amount of reactivity that can be added by moving a rod one notch at any time during normal reactor operation.

The operator has been and should be the first level of protection, with the automatic protective system as a backup to respond to abnormal events. An operator has the right to expect that actions he takes which are permitted by the technical specifications will not result in an uncontrollable situation and the necessity of automatic protective actions.

It is therefore requested that the NRC require that appropriate changes be made in the technical specifications and operating procedures or the design of boiling water reactors to ensure that the amount of reactivity added via control rod movement during normal operations is limited to that which will result in a rate of power increase which is readily controllable by the operator. The NRC should also review the maximum and minimum rod worth values used in accident analyses for individual BWRs to ensure that in all applicable cases the rod worths used are greater than (or where appropriate less than) those which could occur during any xenon condition at any time during a fuel cycle.

Sincerely,



T. K. DeBoer, Director
Technological Development Programs

TKD:mfh

cc: Mr. Myer Bender, Chairman, ACRS