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VARGA,S.A. Operating Reactors Branch 1

SUBJECT: Forwards "Development of Generic ECCS Evaluation Model Which Includes Effect of Upper Plenum Injection." Schedule outlined re plans to address NRC concerns in 850213 ltr re upper plenum injection/ECCS.

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WISCONSIN PUBLIC SERVICE CORPORATION
P.O. Box 1200, Green Bay, WI 54305

April 19, 1985

Director of Nuclear Reactor Regulation
Attention: Mr. S. A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
TAC #08350
Development of a Generic ECCS Evaluation Model Which Includes the Effects of Upper Plenum Injection

References:
1) Letter to E. W. James of WPSC from A. Schwencer of the NRC dated May 16, 1978
2) Letter to C. W. Giesler of WPSC from S. A. Varga of the NRC dated November 1, 1982
3) Letter to S. A. Varga of the NRC from C. W. Giesler of WPSC dated February 22, 1983
4) Letter to D. C. Hintz of WPSC from S. A. Varga of the NRC dated February 13, 1985
5) SECY-83-472 "Emergency Core Cooling System Analysis Methods," dated November 17, 1983

Reference 1 transmitted the NRC's Safety Evaluation Report (SER) on Westinghouse's interim upper plenum injection (UPI) emergency core cooling system (ECCS) evaluation model (EM) which concluded that an acceptable basis for continued operation of the Kewaunee Nuclear Power Plant (KNPP) had been provided while long-term efforts continued to develop an acceptable EM which specifically treated UPI. In a letter dated November 1, 1982 (Reference 2), the NRC

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acknowledged that long-term efforts by Westinghouse and Exxon were proceeding in a satisfactory manner and requested that we submit the results for their review. Wisconsin Public Service Corporation (WPSC) incorporated on its docket, by reference, the Exxon UPI-EM (Reference 3).

Reference 4 transmitted the NRC's evaluation of the current Westinghouse and Exxon UPI-EM's submitted by the various two-loop licensees that utilize UPI in their ECCS to demonstrate compliance with 10 CFR 50.46 and 10 CFR 50, Appendix K. This evaluation concluded that these EM's continued to have the same deficiencies identified by the NRC in Reference 1 and provided additional guidance relative to these deficiencies. It also requested that we provide our plans, schedule and efforts to be expended to address the NRC's concerns within sixty (60) days from the date of receipt. The purpose of this letter is to provide you with the requested information.

WPSC intends to address the NRC's concerns identified in Reference 4 by contracting Combustion Engineering, Inc. to develop a new large break loss of coolant accident (LOCA) EM. This model will account for all relevant phenomena associated with the UPI/ECCS of the KNPP. The intent of this effort is to replace the current EM used for the KNPP with a new one which will be based on physically meaningful models applicable to UPI. As set forth in Reference 4, the methodology will satisfy all applicable required EM features of 10 CFR 50, Appendix K, and will be well documented. Experimental model verification and sensitivity studies necessary to support the EM will also be provided. The overall level of safety and margin of conservatism associated with the new UPI-EM will be demonstrated to be adequate in a manner consistent with the procedure outlined in SECY-83-472 (Reference 5).

The first phase of this effort will involve the development of a generic ECCS-EM which includes the effects of UPI. The attachment to this letter summarizes the planned effort for this phase. A detailed topical report describing the generic UPI-EM, its experimental verification and required sensitivity studies will be submitted to the NRC by approximately December, 1986. It is our intention to provide the NRC an opportunity to review the major aspects of the model during the development period. The first of these reviews is expected to occur during the last quarter of 1985. Plant specific analyses for the KNPP are expected to be submitted to the NRC approximately four months after final NRC approval of the generic UPI-EM. Should any complications occur that may delay this schedule we will notify you promptly.

Very truly yours,

Carl Fiedler for

D. C. Hintz
Manager - Nuclear Power

JGT/js

Attach.

cc - Mr. Robert Nelson, US NRC

Attachment

To

Letter to S. A. Varga of the NRC from D. C. Hintz of WPSC

Dated April 19, 1985

Development of a Generic ECCS Evaluation Model

Which Includes the Effects of Upper Plenum Injection