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SUBJECT: Concludes that plant-specific calculations using approved models util to comply w/10CFR50.46, per Item II.K.3.31 (NUREG-0737). Resolution of item accomplished by generic analyses (ref WCAP-11145).

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August 25, 1986

Director of Nuclear Reactor Regulation
Attention: Mr. G. E. Lear, PWR Project Directorate-1
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 #48174
Completion of NUREG-0737 Item II.K.3.31 - Plant-Specific Analysis to Demonstrate Compliance with 10 CFR 50.46

References:
1) Letter from D. G. Eisenhut (NRC) to All Licensees of Operating Reactors, Applicants for Operating Licenses, and Holders of Construction Permits dated November 2, 1983 (Generic Letter Number 83-35)
2) Letter from D. C. Hintz (WPSC) to S. A. Varga (NRC) dated July 26, 1985
3) Letter from S. A. Varga (NRC) to D. C. Hintz (WPSC) dated May 28, 1985
4) Letter from L. D. Butterfield (WOG) to J. Lyons (NRC) dated June 11, 1986 transmitting WCAP-11145.

Wisconsin Public Service Corporation (WPSC), as a member of the Westinghouse Owner's Group (WOG), has followed the WOG's efforts to resolve NUREG-0737 item II.K.3.31. This item requires the submittal of plant-specific calculations using NRC approved models for small-break loss-of-coolant accidents (SBLOCA) in order to show compliance with 10 CFR 50.46. The plant-specific calculations were to be submitted within one year following the NRC approval of the SBLOCA model which was developed in response to the requirements of NUREG-0737 item II.K.3.30. However, Generic Letter Number 83-35 (reference 1) stated that the resolution of item II.K.3.31 may be accomplished by generic analyses to

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demonstrate that the previous NRC approved SBLOCA model's results were conservative when compared with the new model's results. WPSC letter dated July 26, 1985 (reference 2) informed you that WPSC planned to use this generic method to resolve item II.K.3.31. The purpose of this letter is to reference the generic WOG analyses as WPSC's response to item II.K.3.31.

In reference 3, the NRC informed WPSC that the new SBLOCA model NOTRUMP had been approved. Following this approval, the WOG began the generic analyses necessary to resolve item II.K.3.31 as allowed by Generic Letter Number 83-35 (reference 1). The WOG has completed these generic studies and has submitted the results of the analyses to the NRC in the topical report WCAP-11145 (reference 4).

Topical report WCAP-11145 documents the results of a series of SBLOCA analyses performed with the NRC approved NOTRUMP SBLOCA model. Cold leg break spectrum analyses were performed for the limiting SBLOCA plant from each of the Westinghouse 4-loop, 4-loop Upper Head Injection, 3-loop, and 2-loop plant categories. The limiting SBLOCA plant in each category was defined on the basis of previous SBLOCA analyses which were performed with the NRC approved WFLASH SBLOCA model. In addition to the cold leg break spectrums, a hot leg and pump suction break were performed as part of the 4-loop plant analyses, confirming that the cold leg was still the worst break location. Comparison of the NOTRUMP cold leg break spectrum results with the previously generated WFLASH results showed that the WFLASH results were conservative for all plant categories. In particular, the 2-loop plant category results showed that the NOTRUMP SBLOCA model calculated a limiting peak clad temperature (PCT) which was 917°F lower than that previously calculated by the WFLASH SBLOCA model.

The generic results documented in WCAP-11145 demonstrate that a plant-specific reanalysis of the 2-loop Kewaunee Nuclear Power Plant with the NOTRUMP SBLOCA model would result in the calculation of a limiting PCT which would be significantly lower than the 1713°F PCT currently calculated with the WFLASH SBLOCA model. Hence, the WFLASH SBLOCA model results which currently form the licensing basis for the KNPP are conservative and still valid for demonstrating the adequacy of the emergency core cooling system to mitigate the consequences of a SBLOCA, as required by 10 CFR 50.46. It is therefore concluded that a plant specific analysis is not needed in order for the KNPP to comply with NUREG-0737 item II.K.3.31. Rather, WPSC references WCAP-11145 in order to comply with Item II.K.3.31 on a generic basis, in accordance with reference 1. This completes item II.K.3.31 (TAC number 48174) for the Kewaunee Nuclear Power Plant.

Sincerely,

D. C. Hintz
Vice President - Nuclear Power

KAH/jms

cc - Mr. Robert Nelson, US NRC