NRC PDR

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JAN 7 1980

MEMORANDUM FOR: Chairman Ahearne
Commissioner Gilinsky
Commissioner Kennedy
Commissioner Hendrie
Commissioner Bradford

THRU: Executive Director for Operations (Signed) T. A. Rehm

FROM: Harold R. Denton, Director
Office of Nuclear Reactor Regulation

SUBJECT: RESPONSE FROM WESTINGHOUSE REGARDING ECCS EVALUATION MODELS

As a result of our ongoing review of vendor ECCS models for fuel cladding rupture, strain and flow blockage, the Westinghouse Electric Corporation provided further information to us by letter dated December 7, 1979. From the December 7, 1979 submittal and from subsequent discussions with Westinghouse, we have learned that use of the proposed staff fuel cladding models by themselves could impact the LOCA analyses for Westinghouse supplied plants in such a way as to dictate a reduction in peaking factor (F_q) of up to 0.17.

We have also determined, however, that there is additional margin available in another part of the Westinghouse ECCS evaluation model. Specifically, the application of a more detailed, hydraulic model* during the blowdown portion of the analysis would result in increases of the permissible peak linear heat rate of up to 0.20 in F_q. For each specific Westinghouse supplied plant we have evaluated the impact of the use of the proposed staff fuel cladding models. We have determined that additional margin, based on approved UHI ECCS models, is sufficient to offset any potential penalty that would result from use of the staff's proposed model. Consequently, no existing plant-specific F_q limit requires adjustment at this time to assure compliance with the limits of 10 CFR 50.46.

The staff is in the process of assessing the need for model changes based upon the Oak Ridge data and probably will not arrive at a final position for another couple of months. In summary, the previously approved calculations for all Westinghouse plants show compliance with 10 CFR 50.46 using the approved models and further, they also indicate compliance with 10 CFR 50.46 when our new interim fuel cladding

*Model improvements include adoption of a refined steam/water slip velocity model and concomitant addition of a containment node to the blowdown (SATAN) analyses. Application of these improvements have been formally approved for W upper head injection (UHI) plants.

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models are utilized if taken in conjunction with other staff model improvements that have been approved. Accordingly, no further action on Westinghouse supplied plants is anticipated pending development of the staff's revised fuel evaluation model.

We have reviewed the earlier submittal from the other vendors and believe that the information they provided remains adequate with regard to assuring compliance with the provisions of 10 CFR 50.46.

We will keep the Commission informed of related events as they develop.

Original Signed by
H. R. Denton

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Harold R. Denton, Director
Office of Nuclear Reactor Regulation

cc: OGC
OPE
SECY