.UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

March 14, 1978

Honorable Joseph M. Hendrie
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: WESTINGHOUSE CRITICAL HEAT FLUX CORRELATION AND THERMAL DESIGN PROCEDURE

Dear Dr. Hendrie:

During its 215th meeting, March 9-10, 1978, the Advisory Committee on Reactor Safeguards reviewed the changes being proposed for the Westinghouse critical heat flux correlation and the accompanying thermal design procedure. These matters were first introduced in the review of the Donald C. Cook Nuclear Plant Unit No. 2, and the Committee recommended in its December 21, 1977 report that a generic review be completed prior to implementation of this new thermal design analysis. The ECCS Subcommittee met with the NRC Staff and with representatives of the Westinghouse Electric Corporation, in Washington, DC, on February 16, 1978 to discuss the bases for the changes being proposed. The Committee also had the benefit of the documents listed below.

The Committee recognizes that the regulatory process must be responsive to new data and new analyses and that a strengthened technical base may justify some relaxation in previously acknowledged conservative positions. The Westinghouse proposals for a new critical heat flux correlation and for a new thermal design procedure are examples of such an approach. The application of these proposals, which the Committee considers a generic matter, could lead to greater flexibility of plant operations and to higher power densities.

The Committee concurs with the NRC Staff position, noting that a conservative safety margin is still being retained.

The Advisory Committee on Reactor Safeguards believes that, if due consideration is given to the conservatisms recommended by the NRC Staff, there is reasonable assurance that the Westinghouse critical heat flux correlation and the accompanying thermal design procedure can be used as a regulatory basis for evaluating nuclear power reactor operations without undue risk to the health and safety of the public.

Sincerely yours,

Stephen Lawroski

Stephen Lawroski
Chairman

REFERENCES:

1. Westinghouse Electric Corporation, "Improved Thermal Design Procedure," WCAP-8567, July 1975.
2. Westinghouse Electric Corporation, "New Westinghouse Correlation WRB-1 for Predicting Critical Heat Flux in Rod Bundles with Mixing Vane Grids," WCAP-8762, July 1976.
3. U.S. Nuclear Regulatory Commission, "Draft of Safety Evaluation of the Westinghouse WRB-1 Critical Heat Flux Correlation," January 1978.
4. U.S. Nuclear Regulatory Commission, "Draft of Safety Evaluation of the Westinghouse Improved Thermal Design Procedure," January 1978.