



Westinghouse
Electric Corporation

Water Reactor
Divisions

Nuclear Technology Division

Box 355
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NS-NRC-85-3042
June 26, 1985

Dr. Cecil O. Thomas, Chief
Standardization and Special Projects Branch
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Westinghouse Topical Report, WCAP-10851 (Proprietary), "Improved Performance Models for Westinghouse Fuel Rod Design and Safety Evaluations"

ATTENTION: R. Lobel
Core Performance Branch

Dear Dr. Thomas:

Enclosed are:

1. Twenty-three (23) copies of the topical report, "Improved Performance Models for Westinghouse Fuel Rod Design and Safety Evaluations", WCAP-10851P (Proprietary).
2. One (1) copy of an Application for Withholding Proprietary Information from Public Disclosure (Non-Proprietary).

The NRC approved PAD 3.3 fuel design code currently used for PWR fuel rod design and licensing evaluations incorporates fuel behavior models which contain conservatisms appropriate to the extensive test reactor and somewhat limited commercial PWR fuel data base which was available for code benchmarking at the time this version of the PAD code was developed and approved.

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Subsequent to the NRC's approval of WCAP-8720, "Improved Analytical Models Used in Westinghouse Fuel Rod Design Computations" and of WCAP-8720, Addenda 2, "Revised PAD Code Thermal Safety Model", a significant body of fuel performance data has been obtained through both poolside and hot cell examinations of typical Westinghouse commercial fuel irradiated to extended burnups in some of the most highly rated Westinghouse pressurized water reactors. To perform our fuel rod design and licensing evaluations on the best possible technical basis, Westinghouse has developed revisions to the PAD code fuel performance models utilizing both this recent commercial fuel performance data base and the fuel performance data used in developing the previously approved PAD models.

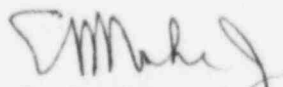
These revised models, which have been integrated in version 3.4 of the PAD code, are described in the enclosed topical report WCAP-10851P, "Improved Performance Models for Westinghouse Fuel Rod Design and Safety Evaluations". The enclosed topical report describes the new models, verifies their predictive capability through comparison with the relevant data bases, and describes how the revised PAD code will be applied to fuel rod design and licensing evaluations.

In view of the continuing trend in the use of both longer reactor operating cycles and higher discharged fuel burnup levels by our utility customers, Westinghouse requests timely review of this topical report.

The enclosed material is submitted for your information and is to be treated as proprietary information of Westinghouse Electric Corporation. The information will be separately resubmitted in whole in conformance with the requirements of 10CFR2.790 should it be employed as part of a license application or other action identified in 10CFR2.790(a).

Correspondence with respect to the application for withholding should reference AW-85-042, and should be addressed to R. A. Wiesemann, Manager of Regulatory and Legislative Affairs, Westinghouse Electric Corporation, P.O. Box 355, Pittsburgh, Pennsylvania 15230.

Very truly yours,



E. P. Rahe, Jr., Manager
Nuclear Safety Department

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Attachments