



# Westinghouse

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Attn: William D. Beckner, Program Director  
New, Research and Test Reactors

Our ref: LTR-NRC-05-59

October 4, 2005

**Subject: Confirmation of Understanding Regarding the Fuel and Core Design Change Requirements for AP1000**

Dear Dr. Beckner:

Westinghouse Electric Company anticipates that the NRC will issue a design certification for the AP1000 Standard Plant Design before the end of 2005. The AP1000 Design Control Document (DCD) that is referenced in the proposed rule that will certify the design categorizes various portions of the design as Tier 1, Tier 2 or Tier 2\*. The processes for changing portions of the design features covered under each of these designations are laid out in the proposed rule. Nevertheless, some uncertainty has arisen from potential AP1000 customers regarding what the staff's level of involvement would be in changing design features designated Tier 2\*, in particular those associated with the fuel and core design. Consequently, Westinghouse requests a letter confirming its understanding regarding the change processes for the fuel and core design parameters that are designated Tier 2\* in the proposed design certification rule for the AP1000.

Westinghouse revises fuel and core designs and associated methodologies over time as new information, materials and analysis techniques become available to enhance fuel safety, performance and/or economics. Historically under 10 CFR 50 regulations, the fuel and core design described in Reference Safety Analysis Reports (RESARs) and plant-specific Final Safety Analysis Reports (FSARs) change from the time of application to the time the NRC issues the Operating License. For reload cores, changes of this type of cycle-specific parameters using Westinghouse's approved reload methodology and approved codes are typically made without prior NRC review under the provisions of 10 CFR 50.59.

The information provided by Westinghouse in the DCD is based on the Westinghouse fuel and core design at the time it was written, and provides the baseline fuel design and safety analysis input for use in the NRC-approved methodologies described in WCAP-9272-P-A, "Westinghouse Reload Safety Evaluation Methodology;" WCAP-12488-A, "Fuel Criteria Evaluation Process;" and WCAP-14483-P-A "Generic Methodology for Expanded Core Operating Limits Report." These NRC-approved methodologies provide the change management framework presently used to manage fuel and core design changes for Westinghouse-designed fuel within the current licensing basis of specific operating plants.

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*Add: William Beckner  
J.N. Wilson*

Since cycle-specific parameters may vary from core design to core design without detrimental impact on the safety and, therefore, the licensability of the core designs, Westinghouse would appreciate confirmation of the following stated understanding of the process for review of a core design change that effects any of the parameters listed in DCD Tables 4.3-1, 4.3-2, and 4.3-3, all of which are designated Tier 2\* until the referencing plant initially achieves 100% power operation:

For the initial plant core design, at the time of the COL review, the NRC would review changes to the AP1000 initial core design parameters from those described in the Tier 2\* portions of the AP1000 DCD. If there are no changes to the NRC-approved methodologies, these types of cycle-specific parameters can be set by the use of Westinghouse's NRC-approved reload methodology and continued use of NRC-approved methods, codes and models with a high degree of confidence that the use of approved methods and methodologies will result in an acceptable review outcome.

For subsequent reload core designs, the utilization of Westinghouse's currently approved fuel and core design change methodology referenced in the AP1000 DCD would be applicable to COL's referencing the AP1000 certified design, given that the Tier 2\* designation will have reverted to Tier 2 designation for the core design parameters. Therefore, as is currently the case for Part 50 licenses, prior NRC approval would not be required for reload cycle-specific variations when the NRC-approved Westinghouse methodologies are employed. Westinghouse acknowledges that certain Tier 2\* designations, such as for fuel burnup limits, continue for the life of the referencing COL.

Thank you for your consideration of this matter. Correspondence with respect to this request should be directed to Bradley F. Maurer, Acting Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Very truly yours,



Bradley F. Maurer, Acting Manager  
Regulatory Compliance and Plant Licensing

cc: J. N. Wilson, NRC