Attachment 3 to

W3F1-2015-0062

NON-PROPRIETARY - Fuel Thermal Conductivity Degradation Evaluation

Contains 4 Pages

Westinghouse Proprietary Class 2

Enclosure 3 to LTR-SCC-15-044

Attachment 2 of CE-15-284-NP, Revision 1

"Fuel Management Adjustment to [ ]^{a,c} to Reserve Margin for Thermal Conductivity Degradation"

(3 pages not including this page)

While FATES3B and its associated methods include margins to offset thermal conductivity degradation (TCD), significant time and effort to quantify those margins would be required. In order to expedite the licensing process, the Waterford Unit 3 core design will retain margin to the [ ]^{a,c} used in non-LOCA and LOCA safety analyses.

The [ ]^{a,c} used in core design will be based on the FATES3B [ ]^{a,c} with an adjustment [ ]^{a,c}. The [ ]^{a,c} will be determined [ ]^{a,c} as summarized in Table 1. This [ ]^{a,c} to account for the burnup dependent effects of TCD. The [ ]^{a,c} will be applied as [ ]^{a,c} shown in Figure 1. All fuel loaded in future reloads will be shown to meet the [ ]^{a,c} listed in Table 1 compared to the bounding analysis.

These [ ]^{a,c} will be applied until a new licensing basis long term fuel methodology is approved Waterford Unit 3. Upon NRC approval of a new long term fuel evaluation model and associated methods that explicitly account for thermal conductivity degradation (TCD) that is applicable to Waterford Unit 3 design, Entergy will, within 6 months:

a. Demonstrate that Waterford Unit 3 safety analysis remain conservatively bounded in licensing basis analyses when compared to the NRC-approved new long term fuel evaluation model that is applicable to Waterford Unit 3 design, and/or

b. Provide a schedule for re-analysis using the NRC-approved new long term fuel evaluation model that is applicable to Waterford Unit 3 design for any affected licensing basis analyses.

Because there are differences in the predicted rod internal pressures between ZrB_2 and UO_2 rods, the FATES3B [ ]^{a,c} are different. Both [ ]^{a,c} will be [ ]^{a,c} to account for TCD, and examples of the required core design [ ]^{a,c} using the Table 1 [ ]^{a,c} based on the currently applied [ ]^{a,c} are included in Figures 2 and 3.

Table 1 a,c

[ ]

Figure 1

a,c

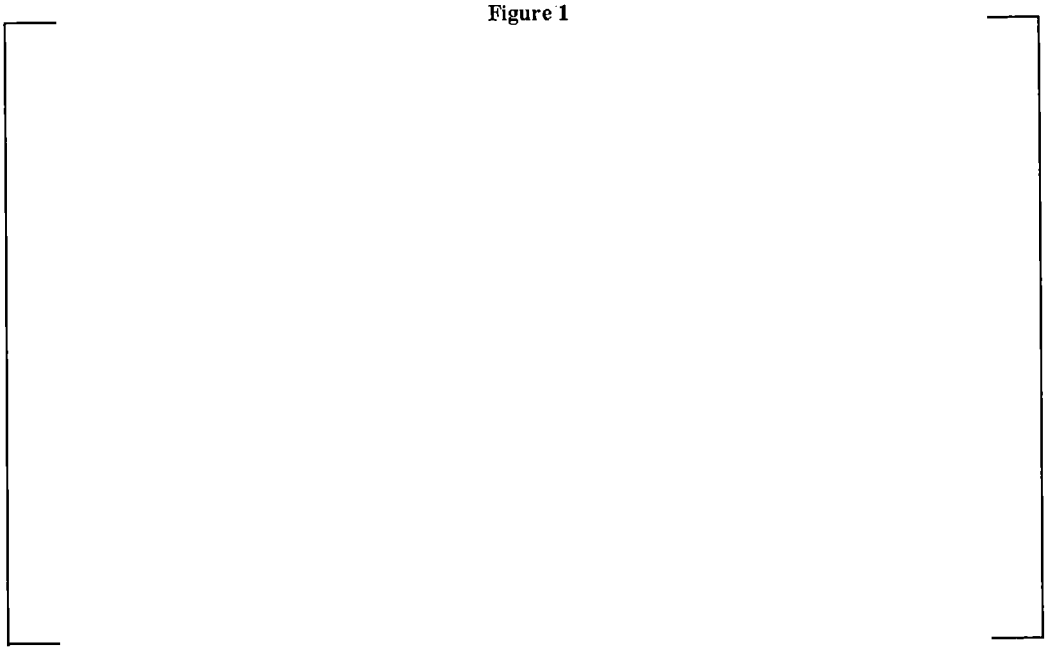


Figure 2

a,c

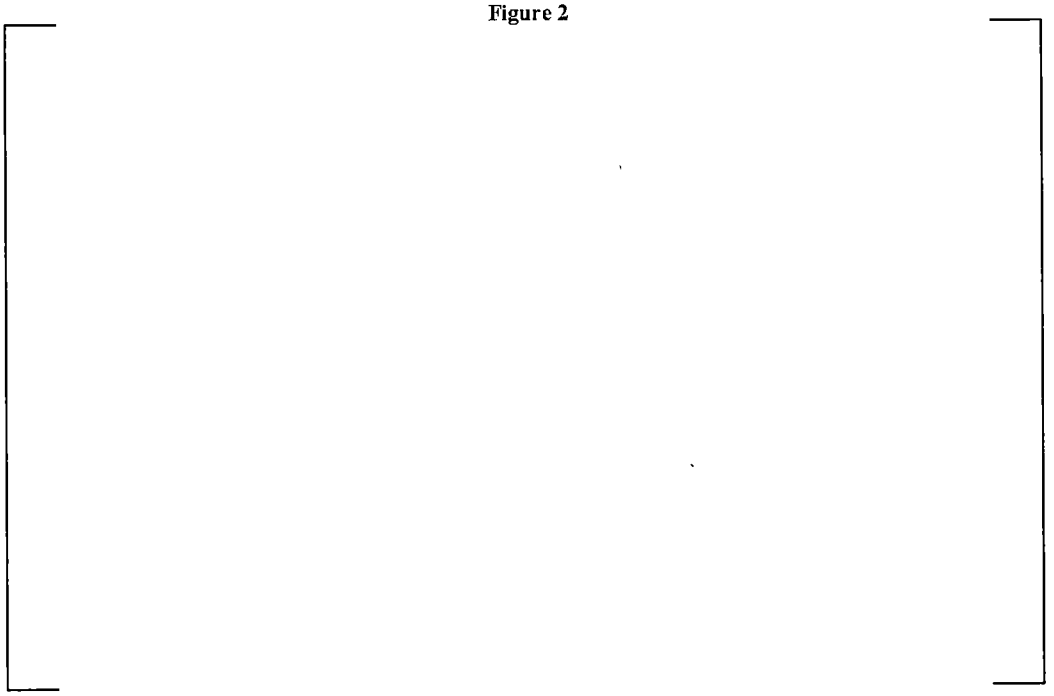
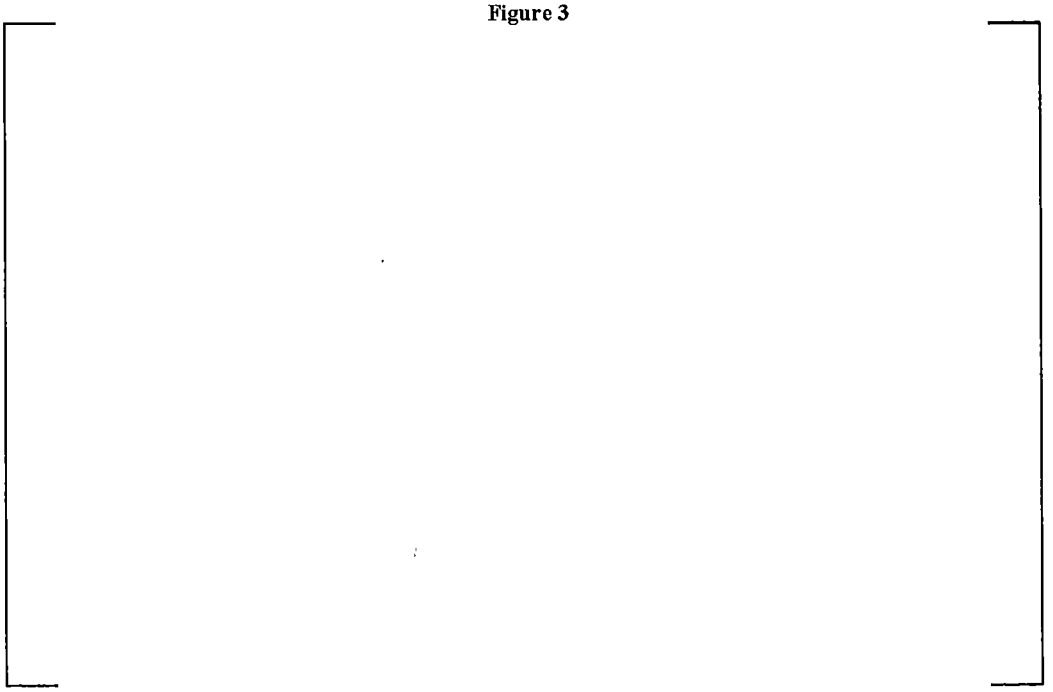


Figure 3

[] a,c