ADVANCED NUCLEAR FUELS CORPORATION

2101 HORN RAPIDS ROAD, PO BOX 130, RICHLAND, WA 99352-0130
(509) 375-8100 TELEX 15-2878

October 4, 1990
RAC:111:90

Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D. C. 20555

Attention: Document Control Desk

Annual Reporting of Changes and Errors in ECCS Evaluation Models

Attached is a description of the minor changes and errors in the loss of coolant (LOCA) evaluation models over the past year as required by 10 CFR 50.46. This report covers the period from September 1989 to the present. ANF uses the EXEM BWR Evaluation Model for boiling water reactor large and small break LOCA evaluations, the EXEM PWR Evaluation Model for pressurized water reactor large break LOCA evaluations, and the ANF-RELAP Small Break LOCA models for small break evaluations.

It should be noted that ANF considers LOCA models to be the codes and the methodology for using these codes. Changes to inputs that result from fuel or plant changes and that are treated according to the methodology are not considered model changes and therefore are not reported in the attachment. These input changes are evaluated on a plant specific basis in accordance with other sections of 10 CFR 50.

If there are questions, or if further information is needed, please contact me.

Very truly yours,

R. A. Copeland
Manager, Reload Licensing

/skm

cc: Mr. R. C. Jones (USNRC)

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ATTACHMENT

Annual Reporting of PWR LOCA Minor Model Changes and Minor Error Corrections

There have been no changes or errors found in either the EXEM PWR large break LOCA model or the ANF-RELAP Small Break LOCA model.

ATTACHMENT

Annual Reporting of EXEM BWR Minor Model Changes and Minor Error Corrections

There have been no errors found in the EXEM BWR LOCA model. There has been one minor change in the input treatment and coding of one of the codes within the EXEM BWR model to allow appropriate modeling of a new fuel design, a 9x9 array with an internal channel. The change occurred in the HUXY code, which calculates the fuel rod heatup. The coding change allows appropriate emissivities for the internal channel; the emissivities are hardwired in the code. The treatment change concerned the HUXY input for the rod positions occupied by the internal channel locations. The changes and comparisons to test data have been reported to the NRC in the referenced letter. Because the change is specific to a fuel design, the previous analyses are unaffected and there is no peak cladding temperature impact.

Reference: Letter, R. A. Copeland (ANF) to Director of Nuclear Reactor Regulation, Attention: Document Control Desk, dated October 4, 1990, RAC:112:90.