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November 18, 1999

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Subject: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29

Report of Change to 10CFR50.46 Evaluation Model Inputs and Error
Discovered in the Evaluation Model

GNRO-99/00084

Gentlemen:

Errors in or changes to an acceptable evaluation model or in the application of the model are required by 10CFR50.46(a)(3)(ii) to be reported to NRC. This report concerns a change for Grand Gulf Nuclear Station that is significant as defined by 10CFR50.46(a)(3)(i). In addition, an error has been discovered, which is reportable only when summed with the change reported herein.

A complete Emergency Core Cooling System (ECCS) performance (Loss-of-Cooling Accident) analysis has been performed in accordance with required analyses and assumptions given in 10CFR50 using GE's NRC approved SAFER/GESTR methodology. The methodology has not been changed, but a number of input parameters have been changed. The revised LOCA ECCS performance analysis demonstrates the acceptability of these changes. However, the revised analysis is conservative with respect to the current operating restraints at the station. One parameter change has been implemented and is discussed below. Additional ECCS input parameter changes are included in the analysis; however, implementation of these changes will require additional analyses and future licensing actions. In some cases, NRC approval will be required because implementation of the change will involve revision of the plant Technical Specifications. For example, the ECCS model would allow delay in the emergency diesel/generator start time beyond the current 10 seconds, but allowing any further delay requires a Technical Specification change. In other cases, changes may be made as allowed by 10CFR50.59.

The actual change that has been made increased the analytical stroke time limit associated with the High Pressure Core Spray (HPCS) injection valve (Q1E22F004) from the previous 16 seconds to 21 seconds. As a result of this change, the High Pressure Core Spray system initiation, which includes Diesel Generator start time, was extended from 27 seconds to 32 seconds. No physical modifications were made to any of the High Pressure Core Spray equipment.

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The significant input parameter changes in this revised GGNS LOCA Analysis are summarized below:

- Delayed HPCS initiation time from 27 to 35 seconds
- Reduced HPCS flow by 10%
- Delayed Low Pressure Diesel Generator start time from 10 to 30 seconds
- Delayed Low Pressure Coolant Injection Injection Valve Stroke Time from 30 to 35 seconds
- Reduced Low Pressure Core Spray (LPCS) flow by 10%
- One low-pressure ECCS train assumed to be in suppression pool cooling or test return lineup
- Reactor Water Levels 1, 2, and 3 reduced by 1 foot

The effect of these changes is a significantly higher peak clad temperature (PCT) than the previous PCT of 1340°F. The new Licensing Basis PCT is <1830°F. Although not quantified separately, the implemented change in the analytical stroke time limit associated with the High Pressure Core Spray (HPCS) injection valve has a very small impact on PCT.

On October 4, 1999, General Electric informed Entergy Operations, Inc. of an error discovered in the basedeck automation procedures for BWR/6 plant SAFER analyses. The effect of the error to Grand Gulf's Licensing Basis PCT was determined to be -7°F. This error is reported in accordance with 10CFR50.46(a)(3)(ii), because its absolute magnitude when summed with the above change exceeds 50°F.

Yours truly,



/MLJ

cc:

(See next page)

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