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10 CFR 50.46(a)(3)

Docket Number 50-346

License Number NPF-3

Serial Number 3017

January 5, 2004

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555-0001Subject: Notification of Significant Change of Input to the Emergency Core Cooling
System Evaluation Model In Accordance With 10 CFR 50.46(a)(3)

Ladies and Gentlemen:

In accordance with 10 CFR 50.46(a)(3), the FirstEnergy Nuclear Operating Company (FENOC) is notifying the Nuclear Regulatory Commission (NRC) of a change in the input to the Davis-Besse Nuclear Power Station (DBNPS) Emergency Core Cooling System (ECCS) Small Break Loss of Coolant Accident (SBLOCA) Evaluation Model (EM). This change meets the definition provided in 10 CFR 50.46(a)(3)(i) as a significant change: "a calculated peak fuel cladding temperature different by more than 50 degrees F from the temperature calculated for the limiting transient using the last acceptable model, or is a cumulation of changes and errors such that the sum of the absolute magnitude of the respective temperature changes is greater than 50 degrees F."

Due to recent modifications performed on the High Pressure Injection (HPI) pump during the 13th Refueling Outage, the HPI pump performance was slightly reduced. Consequently, the limiting SBLOCA was reanalyzed (a 0.02463 square-foot HPI line break) resulting in a Peak Cladding Temperature (PCT) increase of 77.3 degrees F (approximately 1428 degrees F to 1505 degrees F). This calculated PCT remains below the 10 CFR 50.46(b)(1) limit of 2200 degrees F.

Although the change to the HPI pump head curve causes an increase in the PCT during the limiting SBLOCA, the five criteria required by 10 CFR 50.46 remain satisfied (peak cladding temperature, maximum cladding oxidation, maximum hydrogen generation, coolable geometry and long-term cooling). The maximum local oxidation was less than 4 percent and the whole core hydrogen generation rate was 0.21 percent for the SBLOCA spectrum. These calculated values are below the 17 percent local oxidation and 1 percent whole core hydrogen acceptance criteria as required in 10 CFR 50.46(b). The core

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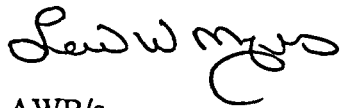
geometry is preserved and it remains amenable to cooling (the maximum flow blockage of 71 percent is less than the 90 percent criterion). Also, this change to the HPI head curve will have a negligible impact on long-term core cooling since long-term core cooling is provided primarily by the Decay Heat Removal System. Other break sizes and locations were reviewed and it was concluded that the reanalyzed case remains bounding.

The change in the SBLOCA EM was to change the HPI System delivered flow to the Reactor Coolant System. The change was evaluated under 10 CFR 50.59 as an input change and does not require a License Amendment.

10 CFR 50.46(a)(3)(ii) requires that a proposed schedule be included for providing reanalysis or taking other action as may be needed to show compliance with 10 CFR 50.46 requirements. This reanalysis has been performed, as stated above, to show compliance with 10 CFR 50.46 requirements, therefore a schedule is not included.

If you have any questions or require additional information, please contact Mr. Kevin Ostrowski, Manager, Regulatory Affairs, at (419) 321-8450.

Very truly yours,



AWB/s

Attachment

cc: NRC Region III Administrator
DB-1 NRC Senior Resident Inspector
DB-1 NRC Senior Project Manager
Utility Radiological Safety Board of Ohio

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Attachment 1
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COMMITMENT LIST

The following list identifies those actions committed to by the Davis-Besse Nuclear Power Station in this document. Any other actions discussed in the submittal represent intended or planned actions by Davis-Besse. They are described only as information and are not regulatory commitments. Please notify the Manager – Regulatory Affairs (419-321-8450) at Davis-Besse of any questions regarding this document or associated regulatory commitments.

COMMITMENTS

DUE DATE

None

N/A