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United States Nuclear Regulatory Commission
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Subject: Upgrading Critical Calculations

Ladies and Gentlemen:

The purpose of this letter is to provide a status to the NRC of the effort to upgrade critical calculations at the Davis-Besse Nuclear Power Station (DBNPS) and changes in the process to accomplish this effort. By letter dated November 20, 2003 (Serial Number 2998), the FirstEnergy Nuclear Operating Company (FENOC) submitted information regarding activities planned to improve the design basis calculations for the DBNPS. These planned improvements included changing the procedure governing creation and revision of calculations to require upgrading existing "critical calculations" (e.g., those which provide Technical Specification limits and those which support accident analyses in the Updated Safety Analysis Report) to the standards in the new procedure when each critical calculation is revised during planned modification activities or other planned calculation revisions. Planned improvements to this procedure also included specifying that under emergent circumstances, critical calculations should be upgraded to the standards in the new procedure when each is revised. FENOC then planned to determine the critical calculations and develop a schedule for updating these calculations to the standards in the new procedure. As FENOC has undertaken actions to implement these plans, adjustments have been made as discussed below.

The FENOC procedure that governs the creation and revision of calculations is NOP-CC-3002, "Calculations." This procedure has been revised to require that a formal, documented design verification of a "critical" calculation (referred to as a "Tier-1" calculation in the procedure) be performed prior to altering or using the calculation as design input. This requirement will ensure that critical calculations are thoroughly reviewed prior to alteration or use as design input and that needed improvements are identified and deficiencies corrected. During planned modification activities or other planned calculation revisions, rather than requiring the entire critical calculation be upgraded at that time, only the revised portion of the calculation will require upgrading. This is a change to FENOC's previously committed plans to upgrade the entire calculation each time. The requirement for design

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verification in conjunction with the procedural requirement to upgrade revised portions of calculations provides for improvement of calculation quality going forward.

There are several activities currently underway that require calculation revisions and hence require upgrading portions of calculations. Many critical calculations will be altered under Operational Improvement Plan initiatives to improve design calculations and increase safety margins. For example, Operational Improvement Plan Initiative 6.1 identifies actions to improve safety margins of the most risk-significant systems. These revisions will include upgrading portions of, or entire, critical calculations to new standards. These efforts include revisions to the containment response and ultimate heat sink thermal-hydraulic analyses that are scheduled to begin in August 2004. This work is scheduled for completion during the current operating cycle as part of the Service Water System safety margin improvement plan. Additional critical calculations are planned to be revised to support upcoming plant modification activities and backlog reduction initiatives. As these critical calculations are revised, the affected portions of these calculations will be upgraded to the new standard required by procedure NOP-CC-3002.

The identification and review of critical (Tier-1) calculations is in progress and will be completed by the end of 2004. As these Tier-1 calculations are graded for overall health, similar to what has been done for the top ten risk significant safety related systems, they will be prioritized and scheduled for upgrading through the Design Basis Assessment Report. The existing controls of procedure NOP-CC-3002 provide for the adequacy of existing critical calculations prior to their use and require that the affected portions of the calculations be revised to upgraded standards when they are altered. This review and grading, combined with scheduled improvement initiatives underway as discussed above, will drive calculation revisions which will require upgrading calculations. FENOC believes this is a more effective use of resources based on the safety significance of the affected calculations.

If you have questions or require additional information, please contact Mr. Gregory A. Dunn, Manager - Regulatory Affairs, at (419) 321-8450.

Very truly yours,

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Enclosure

cc: J. L. Caldwell, Regional Administrator, NRC Region III
J. B. Hopkins, NRC/NRR Senior Project Manager
C. S. Thomas, NRC Region III, DB-1 Senior Resident Inspector
Utility Radiological Safety Board

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COMMITMENT LIST

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

COMMITMENT	DUE DATE
During planned modification activities or other planned calculation revisions, rather than requiring the entire critical calculation be upgraded at that time, only the revised portion of the calculation will require upgrading.	None (Currently in NOP-CC-3002)
The identification and review of critical calculations will be completed by the end of 2004. As these Tier-1 calculations are graded for overall health, similar to what has been done for the top ten risk significant safety related systems, they will be prioritized and scheduled for upgrading through the Design Basis Assessment Report.	December 31, 2004

[Note: These are changes to commitments previously made by letter dated November 20, 2003 (Serial Number 2998)]