



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

Mr. Guy G. Campbell, Vice President - Nuclear
FirstEnergy Nuclear Operating Company
5501 North State Route 2
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1 - DOCUMENTATION OF
CONFERENCE CALL OF NOVEMBER 15, 2001, RE: RESPONSE TO
BULLETIN 2001-01 (TAC NO. MB2626)

Dear Mr. Campbell:

On November 15, 2001, a conference call was held between the staff and representatives of FirstEnergy Nuclear Operating Company concerning the staff's assessment of the Davis-Besse response to Nuclear Regulatory Commission (NRC) Bulletin 2001-01, "Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles." This conference call reflected recent meetings held with your staff at the NRC offices in Rockville, MD, on November 8, 9, and 14, 2001. The purpose of this letter is to document the staff's findings as discussed during the conference call.

As discussed in the bulletin, the Davis-Besse facility is considered to have a high susceptibility to primary water stress corrosion cracking (PWSCC) at reactor pressure vessel head penetration (VHP) nozzles. Thirteen reactor facilities have been categorized as having a high susceptibility to PWSCC at the VHP nozzles. To date, eleven of these facilities have performed inspections as recommended in the bulletin and ten of these have identified cracking in VHP nozzles. With respect to the seven operating Babcock and Wilcox (B&W) facilities, the other six facilities (Davis-Besse excluded) have performed inspections as recommended in the bulletin and all six facilities have identified cracking in VHP nozzles. More significantly, three of these B&W facilities have identified circumferential cracking.

The staff believes there is a reasonable likelihood that the Davis-Besse facility currently has multiple cracks in the VHP nozzles and that one or more of these cracks could be circumferential. The staff has viewed the photographs provided of the Davis-Besse reactor vessel head and videotapes taken from previous refueling outages and is unable to make an independent assessment of the structural integrity of the VHP nozzles.

During the conference call, your staff asked how the NRC had factored the probabilistic safety assessment (PSA) included in your submittal of November 1, 2001. The staff has reviewed the risk assessment included in your submittal and finds the methodology employed to be reasonable. However, the inspection credits for the 1996, 1998, and 2000 inspections and the probabilistic fracture mechanics on crack initiation-propagation are unresolved due to inadequate data and ambiguity to support the risk numbers presented in your submittal.

Based on our review of the information you have provided in your bulletin responses (which includes the staff's request for additional information), the videotapes from previous outages, the PSA included in your submittal of November 1, 2001, and the information provided in the

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meetings identified above, the staff is unable to reconcile the inspection results described above. The staff has not identified any mitigating factors which would distinguish Davis-Besse from the other high susceptible facilities that have previously shut down and identified cracking in the VHP nozzles.

As discussed in the conference call, the staff does not envision a success path using traditional analyses or risk arguments. The staff believes that based on the information available, inspections as recommended in the bulletin are the only means to provide reasonable assurance of the structural integrity of the reactor vessel head. Therefore, any future discussions or submittals on this subject should focus on how Davis-Besse is unique or can be distinguished from the inspection results from the other, high susceptible facilities.

Sincerely,

Stephen P. Sands, Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

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Division of Licensing Project Management
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