CURRENT STATUS OF HIGH SUSCEPTIBILITY PLANTS THAT MAY RECEIVE ORDERS

Davis Besse

On September 28, 2001, NRR senior management called FirstEnergy Nuclear Operating Company (FENOC), the licensee for Davis-Besse, regarding the staff's initial assessment of the Bulletin response for the Davis-Besse plant. NRR senior management indicated that the Davis-Besse bulletin response did not provide sufficient basis for delaying their inspection schedule until April 2002, and unless FENOC had new, or additional pertinent information, the staff's position was that Davis-Besse should perform a 100% inspection of VHP nozzles by December 31, 2001. This position was reiterated on a conference call between the staff and FENOC on October 3, 2001.

On October 11, 2001, a drop-in meeting was held between NRR management and FENOC. During this meeting FENOC indicated that they had new information that had not previously been submitted for staff review. In addition, FENOC requested that the staff document its acceptance criteria used to develop the staff position relative to the Davis-Besse plant. The staff agreed to provide FENOC with such documentation once it was available. The staff plans to issue their technical assessment by November 5, 2001. FENOC provided additional information (a finite element analysis to demonstrate the presence of leakage paths for the CRDM penetrations at the operating conditions, and a Framatome risk assessment) to the NRR Project Manager on Friday, October 12, 2001, committed to provide docketed information, and requested a meeting with the NRC staff.

On October 18, 2001, the staff issued a request for additional information (RAI) via e-mail to FENOC regarding the April 2000 Davis Besse nozzle inspection, the finite element analysis of CRDM penetrations, and the Framatome risk assessment. The licensee met with the NRC staff on October 24, 2001, at NRC headquarters. FENOC committed to provide a response by October 31, 2001. In the Bulletin 2001-01 response, the licensee characterized their prior inspections as a qualified visual inspection. However, four nozzles could not be demonstrated to have annular gaps in the licensee's finite element analysis. In addition, the scope of the prior visual inspection only covered 65% of the VHP nozzles due to boric acid deposits from other sources (e.g., canopy seal and Conoseal leaks). The licensee plans to perform a qualified visual examination at the next refueling outage scheduled for April 2002. The prior inspection, even if qualified, was 24 months from the next planned inspection in Arpil 2002, which is more than the 18 month maximum assumed in the staff's justification. Unless the responses to the staff's RAIs are timely and justify the April 2002 schedule, the staff proposes to issue an order to the licensee to shutdown and perform a 100% qualified visual inspection. The staff's technical assessment provides the justification for the maximum of 18 months between prior and planned inspections.

Surry Unit 2

During their previous outage in Fall 2000, Virginia Electric and Power Company completed a visual inspection of Surry Unit 2, in accordance with Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants." The inspection was performed with the insulation on the head (e.g., not a bare metal inspection as described in Bulletin 2001-01), and would not have been effective in detecting boric acid deposits from VHP nozzle leaks. The licensee plans to perform a qualified visual examination at the next refueling outage scheduled for March 2002. The licensee has not submitted supplemental plant-specific information to demonstrate that their future inspection will be a qualified visual examination.

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The staff has had numerous conference calls with this licensee to discuss the North Anna Unit 1 inspection results and inspection plans for the remaining North Anna and Surry Units in an attempt to achieve resolution of the relevant technical issues. Since this plant has not been inspected previously using a "qualified visual examination," the unit should be shut-down in immediately to facilitate such an examination.

D.C. Cook Unit 2

Indiana Michigan Power Company's original Bulletin response stated that DC Cook Unit 2 intends to perform a remote visual examination of all accessible VHPs under the reactor vessel head insulation during the next (2001) Unit 2 refueling outage. The response also stated that eddy current (ECT) and ultrasonic (UT) examination will also be used. However, due to a recent forced outage, the licensee has decided to delay its outage until January 19, 2002, as confirmed per a conference call on October 9, 2001.

During their outage in Fall 1994, the licensee completed an eddy current examination of the inner diameter of 71 of the 78 VHPs. The results showed three axial indications in one penetration that were subsequently repaired in 1996. The licensee plans to perform a remote visual inspection with ECT and UT at the next refueling outage scheduled for January 2002. The planned inspection in January 2002 is more than 7 years from the prior inspection.

H. B. Robinson

The NRC staff had a conference call with Carolina Power & Light regarding H.B. Robinson's response to Bulletin 2001-01. The staff requested clarification on the chronology of the April 2001vessel head examination, and confirmation on the chronology of the VHP nozzle inspection and head cleaning, in particular whether the VHP nozzles were inspected prior to head cleaning. The licensee submitted a supplemental Bulletin response on October 2, 2001, and requested a meeting with the staff. On October 4, 2001, the licensee (via conference call) stated that the April 2001 visual examination was not able to access the entire circumference of all nozzles. Since this is not well-defined, the licensee was asked to provide a semi-quantitative assessment of the coverage of the visual examination. In addition, the licensee stated that they do not have "as-built" dimensions for the plant-specific analyses to qualify the Robinson head for visual examination. The staff told the licensee that it would need to justify the use of design drawing dimensions. One method suggested by the staff was to use data from RPV heads of a similar vintage and from the same manufacturer as the Robinson RPV head to demonstrate reasonable assurance that the Robinson VHP nozzles were installed in accordance with the design drawing dimensions. During a teleconference on October 11, 2001, the licensee committed to provide a shutdown schedule to permit inspections as a contingency should efforts to qualify the visual examination prove unsuccessful.

On October 20, 2001, the licensee provided the staff with two finite element analyses to demonstrate that the Robinson VHP nozzles would have leakage paths at the operating conditions, and a summary of information related to the conformance of the Robinson VHP nozzles with design drawing tolerances. On October 24, 2001, the staff issued a RAI via e-mail to the licensee regarding the finite element analysis. The licensee met with the NRC staff on October 24, 2001, at NRC headquarters. The licensee provided the staff with a summary of information to support conformance with the design drawing tolerances. However, the staff had additional questions regarding the conclusions from the finite element analyses. The licensee committed to provide a revised submittal which summarizes their information to support conformance with the design drawing tolerances, and to reconcile the finite element analyses with relevant fabrication and installation details. The licensee plans to perform a qualified visual

Ex. 4

examination at the next refueling outage scheduled for [ ] Acceptability of the licensee's approach is predicated on the acceptability of the pending supplemental response to demonstrate qualification of the prior visual examination.