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L-12-062

10 CFR 50.90

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT:

Davis-Besse Nuclear Power Station
Docket No. 50-346, License No. NPF-3
Response to a Request for Additional Information Regarding the Reactor Coolant
System Pressure and Temperature Limits Report, Revision 1 (TAC No. ME7581)

By correspondence dated October 27, 2011 (Accession No. ML11304A188), FirstEnergy Nuclear Operating Company (FENOC) submitted Revision 1 of the pressure and temperature limits report for Davis-Besse Nuclear Power Station (DBNPS) in accordance with Technical Specification (TS) 5.6.4, "Reactor Coolant System (RCS) Pressure and Temperature Limits Report (PTLR)."

By correspondence dated January 20, 2012 (Accession No. ML120190038), the Nuclear Regulatory Commission (NRC) requested additional information to complete its review of the PTLR, Revision 1. FENOC's response to this request is attached.

There are no regulatory commitments contained in this submittal. If there are any questions or if additional information is required, please contact Mr. Phil H. Lashley, Supervisor - Fleet Licensing, at (330) 315-6808.

Sincerely,



Barry S. Allen

Attachment:
Response To Request For Additional Informationcc: NRC Region III Administrator
NRC Project Manager
NRC Resident Inspector
Executive Director, Ohio Emergency Management Agency,
State of Ohio (NRC Liaison)
Utility Radiological Safety Board

Response To Request For Additional Information
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By correspondence dated October 27, 2011, FirstEnergy Nuclear Operating Company (FENOC) submitted revision 1 of the pressure and temperature limits report for Davis-Besse Nuclear Power Station (DBNPS). By correspondence dated January 20, 2012, the Nuclear Regulatory Commission (NRC) staff requested additional information to complete its review. The NRC staff questions are presented in bold type, followed by the FENOC responses.

Request for Additional Information No. 1

Provide the highest reference temperature (RTNDT) of the material in the reactor vessel (RV) closure flange region taking into account the replacement of the DBNPS RV head.

Response:

The reference temperature (RTNDT) of the material in the reactor vessel closure flange region, taking into account the replacement of the reactor vessel head, is -50 degrees Fahrenheit (°F).

Request for Additional Information No. 2

Figure 1, "Composite Normal Heatup/Cooldown Limit – Hot Leg "2(A)" Pressure Tap," and Figure 2, "Composite Normal Heatup/Cooldown Limit – Hot Leg "1(B)" Pressure Tap," of the pressure-temperature limits report (Reference 1) each have a note (#7) stating that instrument error is not accounted for in [the pressure-temperature] limits. However, the two figures have different maximum pressures in the "flange notch" region¹ of the curve (540 psig vs. 565 psig) which appears to suggest a different pressure differential between the RV and each hot leg. State whether the pressure differential between the RV and the hot-legs is accounted for in Figures 1 and 2, and provide the values of the pressure differential if applicable.

Response:

The pressure differential between the reactor vessel and the hot legs is accounted for in the heatup/cooldown limits of the PTLR, Figures 1 and 2. The elevation head differential has been combined with the flow loss differential to establish a correction term for each loop. Due to different reactor coolant pump operating combinations, the maximum flow loss is different in each loop. The correction term between the RV closure flange region and the hot legs is 85 pounds per square inch (psi) for the loop corresponding to hot leg 2(A) and 60 psi for the loop corresponding to hot leg 1(B).

¹ The "flange notch" region refers to the portion of the P-T limit curve defined by the requirement of 10CFR 50, Appendix G, that the pressure for normal operation may not exceed 20 percent of the preservice hydrostatic test (PSHT) pressure until the temperature exceeds by 120 °F (160 °F if the core is critical) the maximum RTNDT of the material in the RV closure flange region that is highly stressed by bolt preload. 20 percent of the PSHT pressure for DBNPS is 625 psig.