



FirstEnergy Nuclear Operating Company

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Docket Number 50-346

License Number NPF-3

Serial Number 2762

February 6, 2002

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Davis-Besse Nuclear Power Station, Unit 1 Third Ten-Year Inservice Inspection Program, Relief Requests RR-A10 and RR-A17 – Response to Request for Additional Information

Ladies and Gentlemen:

The purpose of this letter is to respond to the NRC staff's request for additional information (RAI) concerning relief requests RR-A10 and RR-A17 for the Davis-Besse Nuclear Power Station, Unit 1 (DBNPS) Third Ten-Year Inservice Inspection Interval. These relief requests were originally transmitted with the DBNPS Third Ten-Year Inservice Inspection Program by FirstEnergy Nuclear Operating Company (FENOC) letter Serial Number 2672, dated September 19, 2000. The RAIs related to these relief requests were electronically mailed by the NRC to the DBNPS staff on January 29, 2002. Attachment 1 provides the response to the RAIs, and Attachment 2 provides relief requests RR-A10 and RR-A17 that have been revised to incorporate changes cited in the response. These versions of relief requests RR-A10 and RR-A17 should be used to replace those versions as were transmitted by letter Serial Number 2672.

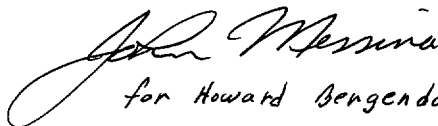
As stated previously, the DBNPS requests that these relief requests, in conjunction with the other relief requests included in the DBNPS Third Ten-Year Inservice Inspection Program, be approved by February 16, 2002 (the start of the 13th Refueling Outage).

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

Very truly yours,


for Howard Bengendahl
RMC/s

Attachments

cc: J. E. Dyer, Regional Administrator, NRC Region III
S. P. Sands, DB-1 NRC/NRR Project Manager
C. S. Thomas, DB-1 Senior Resident Inspector
Utility Radiological Safety Board

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Response to Request for Additional Information
Davis-Besse Nuclear Power Station, Unit 1 Third Ten-Year Inservice Inspection Program
Relief Requests RR-A10 and RR-A17

The following responds to the NRC staff's requests for additional information concerning relief requests RR-A10 and RR-A17 of the Davis-Besse Nuclear Power Station, Unit 1 (DBNPS) Third Ten-Year Inservice Inspection Program.

Request 1 – RR-A10:

To find the use of Code Case N-566-1 acceptable the licensee needs to commit to perform a VT-1 visual examination versus a VT-3 visual examination. The VT-3 examination does not have a criteria to follow once a discrepancy is found.

Response:

Relief Request RR-A10 has been revised to specify that a VT-1 examination be performed to provide the visual evidence of corrosion at the bolted connection pursuant to item (c)(6) of Code Case N-566-1.

Request 2 – RR-A17:

In order for the staff to find the use of this code case acceptable the licensee needs to commit to the additional requirements specified in Draft Regulatory Guide DG-1091.

Response:

Relief Request RR-A17 has been revised to specify that the requirements of Code Case N-546 will be supplemented with the conditions as cited in Draft Regulatory Guide DG-1091 (December 2001) for the use of the Code Case.

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Davis-Besse Nuclear Power Station, Unit 1 Third Ten-Year Inservice Inspection Program
Relief Requests RR-A10 and RR-A17

(5 Pages Follow)

**FIRST ENERGY NUCLEAR OPERATING COMPANY
DAVIS-BESSE UNIT 1
THIRD 10-YEAR INTERVAL
RELIEF REQUEST RR-A10**

System/Component(s) for Which Relief is Requested:

Class 1, 2, and 3 Bolted Connections

Code Requirement:

IWA-5250(a)(2) of the 1995 Edition, 1996 Addenda of ASME Section XI requires that if leakage occurs at a bolted connection on other than a gaseous system, one of the bolts shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100. The bolt selected shall be the one closest to the source of leakage.

Code Requirement from Which Relief is Requested:

Relief is requested from removing bolting and performing VT-3 examination of bolts when leakage is detected during system pressure tests. The requirements of Code Case N-566-1, Corrective Action for Leakage Identified at Bolted Connections, will be implemented. A VT-1 visual examination will be used to provide the visual evidence of corrosion at the bolted connection pursuant to item (c)(6) of the Code Case.

Basis for Relief:

The removal of bolts for VT-3 visual examination is not always the most prudent action when leakage is discovered at a bolted connection. Leakage at bolted connections is typically identified during system leakage tests. For Class 1 systems, this leakage test is conducted prior to plant startup following each refueling outage. This test is performed at full operating pressure (2155 psig) and temperature. When leakage is discovered during this test, the corrective action (i.e. removal of bolts) must be performed with the system at full temperature and pressure or the plant must be cooled down. The removal of a bolt under full temperature and pressure conditions can be extremely physically demanding due to the adverse heat environment. Cooling down the plant subjects the plant to additional heatup and cooldown cycles and can add 3-4 days to the duration of a refueling outage. Bolted connections associated with pumps and valves are typically studs threaded into the body of the component. Removal of these studs is typically very difficult and time consuming due to length of time they have been installed and are often damaged during the removal process. This difficulty is compounded when the removal must be performed under heat stress conditions.

The requirements of IWA-5250(a)(2) must be applied regardless of the significance of the leakage or the corrosion resistance of the materials used in the bolted connection. Implementation of Code Case N-566-1 permits engineering judgment to be used to evaluate the need for corrective action when leakage is discovered at a bolted connection. This Code Case permits factors such as the number and service age of the bolts, the bolting materials, the corrosiveness of the system fluid, the leakage location and system function, leakage history at the connection or at other system components, and visual evidence of corrosion at the bolted connection to be used to evaluate the need for corrective measures.

Relief is requested pursuant to 10 CFR 50.55a(a)(3)(i) as the application of Code Case N-566-1, with a VT-1 examination of the bolted connection to satisfy item (c)(6) of the Code Case, will provide an acceptable level of quality and safety as any leakage at mechanical connections will be thoroughly evaluated for acceptability for continued service.

Alternative Examination:

When leakage is discovered at a bolted connection, the provisions of Code Case N-566-1, with a VT-1 visual examination of the bolted connection to satisfy item (c)(6) of the Code Case, will be implemented.

Justification for the Granting of Relief:

Code Case N-566-1 provides alternatives to the removal of bolting from mechanical connections when leakage is discovered during a system pressure test. Factors such as the number and service age of the bolts, the bolting materials, the corrosiveness of the system fluid, the leakage location and system function, leakage history at the connection or at other system components, and visual evidence of corrosion at the bolted connection are used to determine the integrity of the bolted connection. A VT-1 visual examination will be used to provide the visual evidence of corrosion at the bolted connection pursuant to item (c)(6) of the Code Case. These alternatives provide assurance that the integrity of the mechanical joint will be maintained.

Implementation Schedule:

This relief using Code Case N-566-1, with a VT-1 visual examination of the bolted connection to satisfy item (c)(6) of the Code Case, will be implemented during the Third 10-Year Inspection Interval whenever leakage is discovered at a mechanical joint during the performance of system pressure tests, and will remain in effect until the Code Case N-566-1 is included in Regulatory Guide 1.147 (as referenced by 10 CFR 50.55a).

**FIRST ENERGY NUCLEAR OPERATING COMPANY
DAVIS-BESSE UNIT 1
THIRD 10-YEAR INTERVAL
RELIEF REQUEST RR-A17**

System/Component(s) for Which Relief is Requested:

All components subject to VT-2 examinations during pressure tests.

Code Requirement:

IWA-2313 of the 1995 Edition, 1996 Addenda of ASME Section XI requires personnel performing visual examinations or using other NDE methods not addressed in ASNI/ASNT CP-189 be qualified and certified to comparable levels of qualification as defined in ANSI/ASNT CP-189 and the Employer's written practice.

IWA-2314 of the 1995 Edition, 1996 Addenda of ASME Section XI requires personnel be certified in accordance with ANSI/ASNT CP-189, except that the ANST Level III Certificate is not required. Level I and Level II personnel shall be recertified by qualification examinations every 3 years. Level III personnel shall be recertified by qualification examinations every 5 years.

Code Requirement from Which Relief is Requested:

Relief is requested from the provisions of IWA-2313 and IWA-2314 for visual examination personnel performing VT-2 examinations. The requirements of Code Case N-546 will be supplemented with the conditions as cited in Draft Regulatory Guide DG-1091 (December 2001) for the use of the Code Case.

Basis for Relief:

The 1995 Edition, 1996 Addenda of ASME Section XI requires personnel conducting VT-2 examinations be qualified and certified to comparable levels of qualification as defined in ANSI/ASNT CP-189 and the Employer's written practice.

VT-2 examination is a straightforward examination for leakage. VT-2 examination does not require any special knowledge of technical principals underlying its performance. No special skills or technical training are required to observe leakage from a component or bubbles forming on a joint wetted with leak detection solution. As such, there is no need to subject VT-2 examination personnel to the same qualification and certification requirements as imposed on other nondestructive examination techniques.

Code Case N-546 provides alternative requirements for the qualification of VT-2 examination personnel. Code Case N-546 permits VT-2 examination personnel be qualified in accordance with the following requirements.

- (a) At least 40 hr. plant walkdown experience, such as that gained by licensed and nonlicensed operators, local leak rate personnel, system engineers, and inspection and nondestructive examination personnel.
- (b) At least 4 hr. of training on Section XI requirements and plant specific procedures for VT-2 visual examination.
- (c) Vision test requirements of IWA-2331, 1995 Edition.

These requirements will be supplemented by the conditions for use of Code Case N-546 as stated in Draft Regulatory Guide DG-1091 (December 2001).

The requirements of Code Case N-546 are less burdensome than qualifying and maintaining the VT-2 certification program required by IWA-2313. Code Case N-546 makes it feasible to train and certify more highly qualified personnel to perform VT-2 examinations. Furthermore, it permits experienced personnel who are already required to perform other functions in the plant to perform the VT-2 examination during their normal duties which already includes the identification of leaking components that require maintenance. This would reduce the number of people who are required to enter radiological restricted areas, resulting in fewer plant workers exposed to potential radiation dose and keeping radiation exposure as low as reasonably achievable.

Relief is requested in accordance with 10 CFR 50.55a(a)(3)(i). Implementation of Code Case N-546, as supplemented with the conditions cited in Draft Regulatory Guide DG-1091 (December 2001) for use of the Code Case, will ensure that experienced and competent personnel examine systems for leakage. This will provide an acceptable level of quality and safety comparable to that which would be obtained by using personnel qualified to the comparable levels of qualification as defined in ANSI/ASNT CP-189.

Alternative Examination:

The requirements of Code Case N-546, supplemented with the conditions cited in Draft Regulatory Guide DG-1091 (December 2001) for use of the Code Case, will be used to qualify VT-2 examination personnel.

Justification for the Granting of Relief:

Code Case N-546 requires a minimum of 40 hours of plant walkdown experience. Experience in identifying equipment problems during walkdowns and knowledge of operating conditions will enhance the ability of plant personnel to locate leakage during VT-2 examinations. With the specified 4 hours of training and testing on Section XI requirements and plant specific procedures for VT-2 examinations, the designated plant personnel will understand how leaks should be identified and documented and be fully capable of performing VT-2 examinations. The use of the alternative requirements of Code Case N-546, supplemented with the conditions cited in Draft Regulatory Guide DG-1091 (December 2001) for use of the Code Case, for the qualification of VT-2 personnel will provide an acceptable level of quality and safety.

Implementation Schedule:

The requirements of Code Case N-546, supplemented with the conditions cited in Draft Regulatory Guide DG-1091 (December 2001) for use of the Code Case, may be used for the qualification of personnel performing VT-2 examinations required during the Third 10-Year Inspection Interval.

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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 associated regulatory commitments.

COMMITMENTS

DUE DATE

None