

September 19, 2003

CAL No. 3-02-001E

Mr. Lew Myers  
Chief Operating Officer  
FirstEnergy Nuclear Operating Company  
Davis-Besse Nuclear Power Station  
5501 North State Route 2  
Oak Harbor, OH 43449-9760

SUBJECT: UPDATE OF CONFIRMATORY ACTION LETTER 3-02-001D STATUS FOR  
DAVIS-BESSE NUCLEAR POWER STATION

Dear Mr. Myers:

On March 13, 2002, the Nuclear Regulatory Commission (NRC) issued Confirmatory Action Letter No. 3-02-001 regarding the reactor pressure vessel head degradation at the Davis-Besse Nuclear Power Station. On May 15, 2002, the NRC revised the Confirmatory Action Letter, to address the option of replacing the reactor pressure vessel head. The Confirmatory Action Letter documented six sets of commitments you intended to take prior to restart of Davis-Besse.

On December 24, 2002, the NRC provided a letter to you, documenting our understanding of the current status of each of the items. On January 21, 2003, and July 17, 2003, the NRC provided letters to you to clarify the status of Confirmatory Action letter Item No. 1. As discussed between Mr. Robert Schrauder of your staff and Mr. John Grobe, Chairman of the Davis-Besse Oversight Panel on September 15, 2003, the enclosure to this letter closes Confirmatory Action Letter Items 1 and 2. Notify me if your understanding differs from that described in the enclosure.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

L. Myers

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If you have any questions regarding the information in this letter, please contact me at 630-829-9657, or John Grobe at 630-829-9637.

Sincerely,

**/RA by James L. Caldwell Acting for/**

J. E. Dyer  
Regional Administrator

Docket No. 50-346  
License No. NPF-3

Enclosure: Confirmatory Action Letter Issue 1 and 2 Closure

cc w/encl: The Honorable Dennis Kucinich  
B. Saunders, President - FENOC  
Plant Manager  
Manager - Regulatory Affairs  
M. O'Reilly, FirstEnergy  
Ohio State Liaison Officer  
R. Owen, Ohio Department of Health  
Public Utilities Commission of Ohio  
President, Board of County Commissioners  
Of Lucas County  
Steve Arndt, President, Ottawa County Board of Commissioners  
D. Lochbaum, Union Of Concerned Scientists  
J. Riccio, Greenpeace  
P. Gunter, Nuclear Information & Resource Service

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## Confirmatory Action Letter Issue Closure

### Issue 1:

"Quarantine components or other material from the RPV [Reactor Pressure Vessel] head and CRDM [Control Rod Drive Mechanism] nozzle penetrations that are deemed necessary to fully address the root cause of the occurrence of degradation of the leaking penetrations. Prior to implementation, plans for further inspection and data gathering to support determination of the root cause will be provided to the NRC for review and comment."

### Basis for Closure:

The additional specimens described in the previous update to this Confirmatory Action Letter were obtained by the licensee and shipped to Battelle Northwest Laboratory (BNL) shortly after issuance of the last CAL update. The materials received at BNL were inventoried and NRC staff confirmed that the specimens identified in the CAL update had been received. Per our update, upon shipment of the specimens, the quarantine of the old reactor head was released, and the head was shipped for disposal on August 26, 2003.

This issue is closed.

### Issue 2:

"Determine the root cause of the degradation around the RPV head penetrations, and promptly meet with the NRC to discuss this information after you have reasonable confidence in your determination."

### Basis for Closure:

By letter dated April 18, 2002, FirstEnergy Nuclear Operating Company (FENOC) submitted its Root Cause Analysis Report of the reactor pressure vessel (RPV) head degradation in accordance with the Confirmatory Action Letter dated March 13, 2002. On May 7, 2002, the Nuclear Regulatory Commission (NRC) staff held a public meeting with FENOC representatives to discuss the technical aspects of the root cause analysis. Revision 1 of the Report was submitted by letter dated September 23, 2002.

The Davis-Besse Root Cause Analysis Report provided a broad scope assessment of the "root cause," covering various programmatic, implementation and managerial issues, along with a description of the technical sequence of events from the initiation of cracking in the control rod drive mechanism (CRDM) nozzles to the formation of the cavity identified in March 2002.

The NRC staff reviewed the report and based on the information currently available, the NRC staff concludes that the licensee's analysis presents a plausible scenario of the degradation at Davis-Besse. In the absence of direct physical evidence, the basis for the staff's conclusion is experience with past boric acid corrosion events and the extension of that knowledge to the extreme Davis-Besse case. Uncertainties with regard to the technical details of the RPV head degradation (including the sequence, rate and nature of the mechanisms that resulted in the degradation) preclude a definitive conclusion to the technical Root Cause Analysis Report.

Enclosure

However, the level of understanding of the root cause is sufficient for this licensee to proceed with use of the replacement head from the canceled Midland plant.

In addition to the technical root cause reviews, the licensee also conducted seven individual assessments in the Management & Human Performance area as follows:

- 1) "Root Cause Analysis, Failure to Identify Significant Degradation to the Reactor Pressure Vessel Head," dated August 13, 2002;
- 2) "Root Cause Analysis, Failure in Quality Assurance Oversight to Prevent Significant Degradation of the Reactor Vessel Head," dated September 10, 2002;
- 3) "Root Cause Analysis, Lack of Operations Centrality in Maintaining, Assuring, and Communicating the Operational Safety Focus of Davis-Besse and Lack of Accountability of Other Groups to Operations in Fulfilling that Role," dated November 22, 2002;
- 4) "Root Cause Analysis, Assessment of Engineering Capabilities," dated January 3, 2003;
- 5) "Evaluation of FENOC Company Nuclear Safety Review Board," dated August 13, 2002;
- 6) "Evaluation of Corporate Management Issues," dated December 18, 2002; and
- 7) "Collective Significance Review of the Causal Factors Associated with the Reactor Pressure Vessel Head Degradation at Davis-Besse," dated March 17, 2003.

These reports were reviewed as part of the NRC's Management and Human Performance special inspections, and the results of those reviews are documented in Inspection Reports 50-346/02-15 and 50-346/02-18 dated February 6, 2003, and July 24, 2003, respectively. As stated in the July 24, 2003, letter to FENOC, the overall assessment was of appropriate depth and breadth to develop actions to correct and prevent recurrence of the management and human performance deficiencies associated with the reactor head degradation.

This issue is closed.

Enclosure