



FirstEnergy Nuclear Operating Company

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November 7, 2011

L-11-301

Mr. Mark A. Satorius, Administrator  
United States Nuclear Regulatory Commission  
Region III  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532-4352

**SUBJECT:**

Davis-Besse Nuclear Power Station, Unit 1  
Docket Number 50-346, License Number NPF-3  
Completion of Actions required by Confirmatory Action Letter 3-10-001

The purpose of this letter is to document completion of the actions taken by the FirstEnergy Nuclear Operating Company (FENOC) in response to the Confirmatory Action letter dated June 23, 2010 (ADAMS Accession No. ML101740519). This Confirmatory Action letter documented commitments agreed upon between FENOC and the Nuclear Regulatory Commission (NRC) in response to the identification of control rod drive mechanism (CRDM) nozzle cracks in and reactor pressure boundary leakage from the reactor pressure vessel (RPV) head at the Davis-Besse Nuclear Power Station (DBNPS). These nozzle cracks, which did not challenge plant safety, were identified with the plant shutdown for refueling outage activities that began on February 28, 2010.

As described in the Attachment, these commitments, which included a commitment to shutdown the DBNPS no later than October 1, 2011, and replace the RPV head, have been completed.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Patrick J. McCloskey, Manager, Site Regulatory Compliance, at (419) 321-7274.

Sincerely,

Barry S. Allen

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GMW

Attachment: Completion of Actions Required by Confirmatory Action Letter for the  
Davis-Besse Nuclear Power Station

cc: NRC Document Control Desk  
DB-1 NRC/NRR Project Manager  
DB-1 Senior Resident Inspector  
Utility Radiological Safety Board

Attachment  
L-11-301

Completion of Actions Required by Confirmatory Action Letter for the  
Davis-Besse Nuclear Power Station

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- 1. Provide to the NRC, in writing, the results of the Reinspection Years (RIY) calculation for Operating Cycle 17 performed in accordance with American Society of Mechanical Engineers (ASME) Code Case N-729-1 based on calculated RPV Head temperatures. Due prior to plant restart (Mode 2).**

Actions Taken

This commitment was previously closed via NRC letter dated July 7, 2010 (ADAMS Accession No. ML101880308), based upon receipt of the information in FENOC letter L-10-187 dated June 22, 2010.

- 2. Upon completion of destructive examination of the CRDM Nozzle ring samples removed from nozzles #4 and #10, quarantine one untested minimum full-length 90 degree sample, and turn over ownership to the NRC. Quarantine the sample immediately until arrangements can be made to transport the sample to an independent laboratory selected by the NRC.**

Actions Taken

Following completion of destructive examinations of the CRDM nozzle ring samples, one untested, minimum full length 90 degree sample from nozzle 4 was quarantined. After the NRC established a contract with an independent facility (Department of Energy's Argonne National Laboratory) to receive the nozzle section, the sample was shipped from the DBNPS on October 11, 2010, as radioactive material to the independent facility. The specimen was received at the independent facility on October 12, 2010, where the specimen became the responsibility of organizations under contract to the NRC.

3. **Beginning with reactor startup (Mode 2) and until RPV head replacement, upon reaching Action Level 3 of EN-DP-01171, "Engineering Implementation of the RCS Integrated Leakage Program," the plant shall be shutdown in 30 days if RPV Head leakage cannot be ruled out. During subsequent shutdown as part of the containment inspection for RCS leakage, if RPV Head leakage cannot be ruled out a bare metal visual examination of the RPV head will be performed per applicable ASME Code Case and 10 CFR 50.55a(g)(6)(ii)(D).**

Actions Taken

Action Level 3 of procedure EN-DP-01171, effective April 14, 2008, was not reached at any time while the unit was operating with the RPV head that was repaired during 16RFO. This Action Level consisted of any of the following:

- a cumulative unidentified RCS leakage of more than 100,000 gallons,
- a sustained step change in unidentified RCS leakrate of more than 0.1 gallons per minute, or
- a rate of change of RCS leakrate (identified or unidentified) of more than 0.12 gallons per minute in a month.

As of December 30, 2010, this Action Level had been relocated to procedure NG-EN-00327, "RCS Integrated Leakage Program"; however, the existing limits were either maintained or reduced to a more conservative value to align the program action levels with industry standard action levels.

4. **The licensee has voluntarily elected to shut down the unit no later than October 1, 2011, and replace the RPV head.**

Actions Taken

On September 30, 2011, at 1500 hours a power reduction was initiated to shutdown the plant for the Cycle 17 Mid-Cycle Outage. The Main Turbine was tripped on October 1, 2011, at 00:00:23 to start the outage. At 0315 hours on October 1, 2011, the reactor was shutdown (plant entered Mode 3).

A new RPV head constructed with Alloy 690 CRDM nozzles has been moved into Containment, and on October 30, 2011, the RPV head that was repaired during 16RFO was removed from Containment. Actions are progressing to close Containment and establish Shield Building integrity following the RPV head replacement.