

October 7, 2003

EA-03-131

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: FINAL SIGNIFICANCE DETERMINATION FOR A YELLOW FINDING (NRC INSPECTION REPORT 50-346/03-15) - DAVIS-BESSE POTENTIAL CLOGGING OF THE EMERGENCY SUMP FOLLOWING A LOSS OF COOLANT ACCIDENT

Dear Mr. Myers:

The purpose of this letter is to provide you the final results of our significance determination of the preliminary Yellow finding discussed in Inspection Report 50-346/03-15, issued on July 30, 2003. The inspection finding was assessed using the Significance Determination Process (SDP) and was preliminarily characterized as Yellow, a finding with substantial importance to safety. The finding was associated with a performance deficiency that resulted in the failure of FirstEnergy Nuclear Operating Company (FENOC) to effectively implement corrective actions for design control issues related to deficient containment coatings, uncontrolled fibrous material and other debris. This deficiency could result in the inability of the emergency core cooling system sump to perform its safety function under certain accident scenarios due to potential clogging of the sump screen.

In our letter dated July 30, 2003, transmitting the inspection report, we provided FENOC an opportunity to request a Regulatory Conference or provide a written response. FENOC submitted a written response, dated August 29, 2003. FENOC acknowledged the performance deficiency and did not contest the Yellow finding or the significance determination. FENOC, however, requested that the NRC consider mitigating circumstances applicable to the NRC Enforcement Policy, NUREG 1600, "General Statement of Policy and Procedure for NRC Enforcement Actions," Section VII.B.2, "Violations Identified During Extended Shutdowns or Work Stoppages."

As basis for mitigation FENOC stated that a Return to Service Plan was created following discovery of the reactor vessel head degradation in early 2002 that described the course of action for a safe and reliable return to service. Included in the Return to Service Plan was the Containment Health Assurance Plan, by which FENOC personnel identified the degraded emergency sump. FENOC stated that the NRC added Restart Checklist Item 2.c.1, "Emergency Core Cooling System and Containment Spray System Sump," to address issues concerning the emergency sump.

FENOC also described its modification to replace the previous emergency core cooling system (ECCS) emergency sump strainer with a larger strainer design. The unqualified coatings and other potential debris, including fibrous insulation, remaining in containment have been walked down, verified and documented. Debris generation, transport, strainer head loss, and strainer integrity analyses were performed for the emergency sump to return the emergency sump to full qualification and operability conditions.

FENOC provided information relative to its response to NRC Bulletin 2003-01, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized-Water Reactors." FENOC stated that it has committed to having the emergency core cooling system (ECCS) and containment spray system recirculation functions analyzed with respect to potentially adverse post-accident debris blockage effects identified in the NRC Bulletin to confirm compliance with 10 CFR 50.46(b)(5) and all other existing applicable regulatory requirements prior to restart.

FENOC's response of August 29, 2003, provided no new information to change the NRC staff's preliminary conclusion that the performance deficiency that resulted in failure to effectively implement corrective actions for design control issues related to deficient containment coatings, uncontrolled fibrous material and other debris was of substantial safety significance in the Yellow range. Therefore, the NRC has concluded that the significance of the performance deficiency discussed in Inspection Report 50-346/03-15 is a finding appropriately characterized as Yellow.

Regarding FENOC's request for the NRC to consider mitigating circumstances referenced in NUREG 1600, "General Statement of Policy and Procedure for NRC Enforcement Actions," Section VII.B.2, "Violations Identified During Extended Shutdowns or Work Stoppages," the NRC concluded that because civil penalties are not normally considered for violations associated with issues evaluated by the Significance Determination Process and are not being considered for the enclosed violation associated with this performance deficiency, the requested mitigation is not applicable to these circumstances.

You have 30 calendar days from the date of this letter to appeal the staff's final determination of significance for the identified Yellow finding. Such appeals will be considered to have merit only if they meet the criteria given in NRC Inspection Manual Chapter 0609, Attachment 2.

The NRC has determined that the failure to promptly identify and correct significant conditions adverse to quality involving the potential to clog the emergency core cooling and containment spray system sump with debris following a loss of coolant accident (LOCA) is a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," as cited in the enclosed Notice of Violation (Notice). The circumstances surrounding the violation are described in detail in the subject inspection report. In accordance with the NRC Enforcement Policy, NUREG-1600, the Notice of Violation is considered escalated enforcement action because it is associated with a Yellow finding.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance was achieved is already adequately addressed on the docket in NRC Inspection

Reports 50-346/03-06 and -17. In addition, Inspection Report 50-346/03-17 documents closure of Restart Checklist Item 2.c.1, "Emergency Core Cooling System and Containment Spray System Sump." The Restart Checklist is a listing of issues requiring resolution before the Oversight Panel could consider a recommendation for facility restart. Therefore, no response is required. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation," include the EA number, and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555 with a copy to the Regional Administrator, Region III, and a copy to the NRC Resident Inspector at Davis-Besse within 30 days of the date of this letter.

Because questions have been raised regarding the manner in which concurrent multiple equipment or functional degradations regarding Davis-Besse are evaluated, the following information is provided. On May 29, 2003, the NRC issued its final significance determination for a Red finding regarding the control rod drive mechanism penetration cracking and reactor pressure vessel head degradation in NRC Inspection Report 50-346/03-16. The final significance determination for the Yellow finding described in this letter was determined independently from the head degradation.

As explained in IMC 0609, "Significance Determination Process," Appendix A, Section III, the manner in which concurrent multiple equipment or functional degradations are evaluated using the SDP is a function of their cause. If the concurrent multiple equipment or functional degradations resulted from a common cause (e.g., a single inadequate maintenance procedure that directly resulted in deficient maintenance being performed on multiple components), then a single inspection finding will be written and characterized for significance by the total increase in core damage frequency. The justification for existence of a common cause must be a stronger causal relationship than poor management or cross-cutting programs (e.g., an inadequate problem identification and resolution program is an inadequate basis to justify a common cause finding). If independent causes are determined to have resulted in the multiple equipment or functional degradations, then separate inspection findings will be written and individually characterized for significance assuming none of the other independent findings existed. The SDP is designed this way to focus NRC inspection resources on licensee performance deficiencies. The SDP is not intended to be a process which determines integrated plant risk.

Because the causes of the deficiencies that led to the reactor pressure vessel head degradation were separate from the causes that resulted in the potential for clogging of the containment emergency sump, the NRC staff concluded that separate performance deficiencies and significance determinations were appropriate.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from

the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction. The NRC also includes significant enforcement actions on its Web site at www.nrc.gov; select What We Do, Enforcement, then Significant Enforcement Actions.

Sincerely,

/RA/

James L. Caldwell
Regional Administrator

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

Enclosure: Notice of Violation

cc w/encl: The Honorable Dennis Kucinich
G. Leidlich, 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
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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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D. Dambly, Associate General Counsel for Materials Litigation and Enforcement

J. Dyer, Director, Office of Nuclear Reactor Regulation

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Regional Enforcement Coordinators, RI, RIII, RIII, RIV

J. Dixon-Herrity, NRR Enforcement Coordinator

C. Thomas, Senior Resident Inspector

E. Hayden, Assistant to the Director of Public Affairs

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G. Caputo, Director, Office of Investigations

L. Tremper, Chief, License Fee & Accounts Receivable Branch, OCFO

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NOTICE OF VIOLATION

First Energy Nuclear Operating Company
Davis-Besse Nuclear Power Plant, Unit 1

Docket No. 50-346
License No. NPF-3
EA-03-131

During an NRC inspection conducted from May 18 through June 30, 2003, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," requires, in part, that measures shall be established to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action is taken to preclude repetition.

Contrary to the above, from at least 1976, the licensee failed to promptly identify and correct significant conditions adverse to quality involving the potential to clog the Emergency Core Cooling and Containment Spray System Sump with debris in a post LOCA environment. Specifically,

- a. The reactor coolant pump motors, reactor vessel, steam generators, pressurizer, and reactor coolant system piping were coated with unqualified paint and the licensee was notified on December 17, 1976, in a letter from Babcock and Wilcox, of the non-design basis accident tested/qualified coatings that were applied to these safety related systems and components.
- b. Unqualified coatings, degraded qualified coatings, and unanalyzed fibrous material were located in containment on safety related structures, systems and components and the licensee was notified in Generic Letter 98-04, "Potential for Degradation of the Emergency Core Cooling System and the Containment Spray System after a Loss-of-Coolant Accident Because of Construction and Protective Coating Deficiencies and Foreign Material in Containment," dated July 14, 1998, of the problems associated with protective coatings and other debris inside containment.

This violation is associated with a YELLOW Significance Determination Process finding.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance was achieved is already adequately addressed on the docket in LER 2002-005 and NRC Inspection Reports 50-346/03-06 and -17. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation," include the EA number, and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555 with a copy to the Regional Administrator, Region III, and a copy to the NRC Resident Inspector at the Davis-Besse facility within 30 days of the date of this letter.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 7th day of October 2003.