

March 12, 2004

EA-04-020

Mr. William R. Kanda
Vice President - Nuclear, Perry
FirstEnergy Nuclear Operating Company
P. O. Box 97, A210
10 Center Road
Perry, OH 44081

SUBJECT: FINAL SIGNIFICANCE DETERMINATION FOR A WHITE FINDING
(NRC INSPECTION REPORT 50-440/2004-006)
PERRY NUCLEAR POWER PLANT

Dear Mr. Kanda:

The purpose of this letter is to provide you with the final results of our significance determination of the preliminary White finding discussed in Inspection Report 50-440/2003-010, issued January 30, 2004. The inspection finding was assessed using the Significance Determination Process (SDP) and was preliminarily characterized as White (i.e., a finding with low to moderate increased importance to safety, which may require additional NRC inspection). This preliminary White finding relates to the air binding of the common low pressure core spray and residual heat removal (RHR) 'A' water leg pump following the August 14, 2003, loss of offsite power event.

Overall, the SDP Phase 3 analysis estimated a low to moderate safety significance (White) increase in core damage frequency (Δ CDF) and a very low safety significance (Green) increase in large early release frequency (Δ LERF) for internal and external loss of offsite power (LOOP) initiating events. The analysis used the Perry Revision 3.01 SPAR model, draft NRC MC 0609, Appendix H, "Containment Integrity SDP," and risk information from your assessment that supported LER 2003-002-001. The analysis assumed that, over a year of reactor operation, the RHR 'A' train would have failed following a LOOP if either operators failed to vent and fill the train or if it started as the result of a loss of high pressure injection (loss of both high pressure core spray (HPCS) and reactor core isolation cooling (RCIC)). The probability of operators failing to vent the RHR 'A' train was developed based on existing procedures to diagnose and vent the water leg pump, the stress that would be involved, and the time available to take the action.

The dominant core damage sequences resulted from the reduced redundancy (given the finding on RHR 'A' train) in suppression pool cooling, shutdown cooling, and containment spray.

The dominant sequences included success of the emergency diesel generators, either HPCS or RCIC, and depressurization of the reactor. Relative to external events, a fire-induced LOOP dominated but was not considered likely to increase the total Δ CDF above the low to moderate significance for internal LOOP events. With respect to Δ LERF, for a Mark III containment, draft NRC MC 0609, Appendix H, screened the finding to very low safety significance because the dominant Δ CDF sequences that would result in core damage would still have emergency power available and the reactor at low pressure. We note that our overall risk assessment agreed with your risk assessment documented in LER 2003-002-001. However, our internal Δ CDF estimate was higher than your estimate, possibly due to our use of loss of offsite power initiating event frequencies and offsite power non-recovery probabilities developed from NUREG/CR 5496, "Evaluation of Loss of Offsite Power Events at Nuclear Power Plants: 1980 - 1996."

On February 13, 2004, Mr. J. Lausberg of your staff notified M. Ring of my staff that FirstEnergy did not contest the characterization of the risk significance of this finding and that you declined your opportunity to provide additional information or discuss this issue in a regulatory conference.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White, that is, an issue with low to moderate increased importance to safety, which may require additional NRC inspection.

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

The NRC also has determined that the failure to establish adequate written procedures to periodically vent the highest point on the discharge of the common low pressure core spray and RHR 'A' water leg pump is a violation of Technical Specification 5.4, as cited in the enclosed Notice of Violation (Notice). The circumstances surrounding the violation are described in detail in Inspection Report 05000440/2003-010. In accordance with the NRC Enforcement Policy, NUREG-1600, the Notice of Violation is considered escalated enforcement action because it is associated with a White finding.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response.

Because plant performance for this issue, in conjunction with other plant issues, has been determined to be in the degraded cornerstone response band, we used the NRC Action Matrix to determine the most appropriate NRC response for these events. We notified you by letter, "Annual Assessment Letter - Perry Nuclear Power Station," dated March 4, 2004, of our plans to conduct supplemental inspection 95002 in May 2004. We plan to include this White finding within the scope of the 95002 supplemental inspection.

In accordance with 10 CFR 2.390 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 by Geoffrey E. Grant for/

James L. Caldwell
Regional Administrator

Docket No. 50-440
License No. NPF-58

Enclosure: Notice of Violation

cc w/encl: G. Leidich, President - FENOC
K. Cimorelli, Acting Director,
Maintenance Department
V. Higaki, Manager, Regulatory Affairs
J. Messina, Director, Nuclear
Services Department
T. Lentz, Director, Nuclear
Engineering Department
T. Rausch, Plant Manager,
Nuclear Power Plant Department
M. O'Reilly, Attorney, First Energy
Public Utilities Commission of Ohio
Ohio State Liaison Officer
R. Owen, Ohio Department of Health

*** See Previous Concurrences**

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DRS Branch Chiefs (JFL, DEH, RDL, KXR)
R. Lickus (RML2), State Liaison Officer, RIII
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NOTICE OF VIOLATION

FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant, Unit 1

Docket No. 50-440
License No. NFP-58
EA-04-020

During an NRC inspection conducted from October 1 through December 31, 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:

Technical Specification 5.4 requires, in part, that procedures shall be established, implemented and maintained as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Section 4, "Procedure for Startup, Operation, and Shutdown of Safety Related BWR Systems," recommends the establishment of written procedures for venting of emergency core cooling systems.

Contrary to the above, as of August 14, 2003, the licensee had not established adequate written procedures to periodically vent the high point on the discharge of the common Low Pressure Core Spray (LPCS) and Residual Heat Removal (RHR) train 'A' water leg pump. Specifically, the licensee did not include Valve N27F786 in Procedures SVI-E21-T1181, "LPCS Venting and Valve Lineup Verification," Revision 4 or SVI-E12-T1182A, "RHR A LPCI Valve Lineup Verification and System Venting," Revision 2. As a result, gas accumulated in the vertical section of piping on the discharge of the water leg pump and, following a loss of offsite power on August 14, 2003, the accumulated gas expanded, air bound the water leg pump and rendered LPCS and RHR 'A' inoperable.

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

Pursuant to the provisions of 10 CFR 2.201, FirstEnergy Nuclear Operating Company is hereby required to submit a written statement or explanation 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 Perry Nuclear Power Plant, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation; EA-04-020" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

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, U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because 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, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

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

Dated this 12th day of March 2004