UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

January 3, 2012

EA-11-227

Mr. Anthony Vitale
Vice-President, Operations
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: FINAL SIGNIFICANCE DETERMINATION OF WHITE FINDING WITH ASSESSMENT FOLLOWUP AND NOTICE OF VIOLATION
NRC INSPECTION REPORT NO. 05000255/2011017
PALISADES NUCLEAR PLANT

Dear Mr. Vitale:

This letter provides you the final significance determination of the preliminary White finding discussed in our previous communication dated October 28, 2011, which included U.S. Nuclear Regulatory Commission (NRC) Inspection Report No. 05000255/2011013. The finding involved the improper greasing of a knife edge on the overspeed trip mechanism which contributed to a failure of the turbine driven auxiliary feedwater pump (pump P-8B) during surveillance testing on May 10, 2011.

In a letter dated November 28, 2011, you provided a response to the NRC staff's preliminary determination regarding the finding. Your response indicated that you acknowledged the finding and apparent violation, but that you disagreed with the risk significance. Specifically, your response indicated that the failure of pump P-8B was a spurious trip and that there have been no other failures from 2005 up until the May 10, 2011, trip. For that reason, your staff concluded that the delta core damage frequency (Δ CDF) attributable to the issue would be less than 1 E-06/yr, resulting in a significance determination of very low safety significance. Your staff also determined that there were additional procedural non-compliances and that preparation and execution of the pump P-8B overhaul in 2010 did not ensure pump reliability. The NRC reviewed these additional procedural issues and determined that the issues contributed to the identified performance deficiency. Specifically, as noted in your response, vendor information developed to reduce the potential for pump trips was not incorporated into the procedure. This vendor information included critical guidance on inspection of the knife edge and latch plate for wear and periodic replacement of the trip spring. Furthermore, it was identified that the post-maintenance testing instructions in the maintenance procedure were documented as suggestions and, therefore, were not performed. The NRC noted that performance of these would have provided you an opportunity to identify the potential for a deficiency in pump performance prior to returning the pump to service.

As a result, the NRC revised the performance deficiency to state that "The licensee failed to ensure that safety-related procedure FWS-M-6, "Auxiliary Feedwater Turbine Maintenance," was appropriate to the circumstances, in that, it did not address turbine vendor critical guidance

for inspection of the knife edge and latch plate for wear and periodic replacement of the trip spring. Additionally, the procedure specified post-maintenance tests of the overspeed mechanism as guidance rather than required actions. Furthermore, during performance of the procedure, the licensee failed to follow a step of the procedure which required lubricating a pin and instead greased the knife edge of the mechanical overspeed/manual trip mechanism."

The NRC considered the information developed during the inspection and the additional information you provided in your letter dated November 28, 2011, as to whether the failure could be characterized as a spurious trip. This included review of the calculation of the overspeed trip mechanism linkage forces and the risk assessment of the turbine driven auxiliary feedwater P-8B trip which were enclosed with your response. In general, the NRC agrees the grease alone may not have caused the trip as discussed in the force calculation. The grease did, however, reduce the force needed to move the hand trip lever. Because of the grease, the other deficiencies introduced during the pump maintenance, and the actual pump conditions at the time of the trip, the NRC determined that the trip cannot be considered as spurious.

The NRC concluded that a performance deficiency existed such that the 2010 maintenance was reasonably the proximate cause of the pump failure on May 10, 2011. As a result, the pump trip was not "spurious" but rather the result of deficient licensee performance. In accordance with NRC Inspection Manual Chapters 0609, Appendix A, and 0308, Attachment 3, the NRC staff assessed the risk to the plant using the Significance Determination Process, as described in NRC Inspection Report No. 05000255/2011013. As your risk assessment relied upon the conclusion that the trip was spurious, it did not provide any additional risk information beyond what was considered in Inspection Report No. 05000255/2011013. Therefore, the NRC has concluded that the finding is appropriately characterized as White, a finding of low to moderate risk significance.

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 Chapter 0609, "Significance Determination Process," Attachment 2. An appeal must be sent in writing to the Regional Administrator, Region III, Suite 210, 2443 Warrenville Road, Lisle, IL 60532.

The NRC has also determined that the improper lubrication of the overspeed mechanism knife edge is a violation of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," as cited in the attached Notice of Violation (Notice). The circumstances surrounding the violation were described in detail in NRC Inspection Report No. 05000255/2011013. In accordance with the NRC Enforcement Policy, the Notice is considered escalated enforcement action because it is associated with a White finding.

The NRC has concluded that information regarding the reasons for the violation, the corrective actions taken and planned to be taken 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 Report No. 05000255/2011013 and in your response dated November 28, 2011. Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position. In that

case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

As a result of our review of Palisades' performance, including this White finding, we have assessed the plant to be in the Regulatory Response column of the NRC's Action Matrix, effective the fourth quarter of 2011. Therefore, we plan to conduct a supplemental inspection using Inspection Procedure 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," when your staff has notified us of your readiness for this inspection. This inspection procedure is conducted to provide assurance that the root cause and contributing causes of risk significant performance issues are understood, the extent of condition and the extent of cause are identified, and the corrective actions are sufficient to prevent recurrence.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if any, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. The NRC also includes significant enforcement actions on its Web site at http://www.nrc.gov/reading-rm/doc-collections/ enforcement/actions.

Sincerely,

/RA by Jennifer Uhle acting for/

Cynthia D. Pederson
Acting Regional Administrator

Docket No. 050-00255
License No. DPR-20

Enclosure:
Notice of Violation

cc w/encl: Distribution via ListServ

NOTICE OF VIOLATION

Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant

Docket No. 50-255
License No. DPR-20
EA-11-227

During a U.S. Nuclear Regulatory Commission (NRC) inspection conducted from September 26 through October 5, 2011, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Title 10 of the Code of Federal Regulations (10 CFR), Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by documented instructions, procedures or drawings of a type appropriate to the circumstances and be accomplished in accordance with these instructions, procedures or drawings.

Technical Specification 3.7.5 requires, in part, that two auxiliary feedwater trains be operable during plant operation in Modes 1, 2, and 3 with the steam driven pump required to be operable prior to making the reactor critical.

Technical Specification Actions 3.7.5.A and B require, in part, that if one auxiliary feedwater train is inoperable in Modes 1, 2, and 3, the affected train be restored to operable status within 72 hours or the plant placed in Mode 3 within 6 hours and in Mode 4 within 30 hours.

Contrary to the above, on October 17, 2010, maintenance on the safety-related steam driven auxiliary feedwater pump, an activity affecting quality, was not prescribed by documented instructions or procedures of a type appropriate to the circumstances and accomplished in accordance with the instructions or procedures. Specifically:

a. Maintenance was not prescribed by procedures appropriate to the circumstances, in that procedure FWS-M-6, "Auxiliary Feedwater Turbine Maintenance," failed to prescribe inspections of wear conditions on the knife edge and latch plate or to replace the trip spring, although these inspections and replacements had been identified as necessary by the turbine vendor in vendor technical letter ETSL-T-2012, Revision 0; and

b. Workers performing procedure FWS-M-6 failed to follow Step 5.40.3 of the procedure which required lubricating a pin and instead greased the knife edge of the mechanical overspeed/manual trip mechanism.

As a result, the steam driven auxiliary feedwater pump P-8B was inoperable from October 29, 2010, to May 11, 2011, a period greater than 72 hours. Because the licensee was not aware of the inoperability, the required actions in Actions 3.7.5.A and B were not followed.

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

ENCLOSURE

The NRC has concluded that information regarding the reasons for the violation, the corrective actions taken and planned to be taken 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 Report No. 05000255/2011013 and in your response dated November 28, 2011.

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, EA-11-227," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532, and a copy to the NRC Resident Inspector at the Palisades facility, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

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.

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 Agencywide Documents Access and Management 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 of receipt.

Dated this 3rd day of January 2012

case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

As a result of our review of Palisades' performance, including this White finding, we have assessed the plant to be in the Regulatory Response column of the NRC's Action Matrix, effective the fourth quarter of 2011. Therefore, we plan to conduct a supplemental inspection using Inspection Procedure 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," when your staff has notified us of your readiness for this inspection. This inspection procedure is conducted to provide assurance that the root cause and contributing causes of risk significant performance issues are understood, the extent of condition and the extent of cause are identified, and the corrective actions are sufficient to prevent recurrence.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if any, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. The NRC also includes significant enforcement actions on its Web site at http://www.nrc.gov/reading-rm/doc-collections/ enforcement/actions.

Sincerely,

/RA by Jennifer Uhle acting for/

Cynthia D. Pederson
Acting Regional Administrator

Docket No. 050-00255
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Enclosure:
Notice of Violation

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* See previous concurrence

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DATE	12/22/11	12/23/11	12/23/11	12/22/11	12/28/11	01/03/12

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[1] OE concurrence received via e-mail from L. Casey on December 22, 2011.

Letter to Anthony Vitale from Cynthia D. Pederson dated January 3, 2012

SUBJECT: FINAL SIGNIFICANCE DETERMINATION OF WHITE FINDING WITH ASSESSMENT FOLLOWUP AND NOTICE OF VIOLATION
NRC INSPECTION REPORT NO. 05000255/2011017
PALISADES NUCLEAR PLANT

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