Entergy

Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043
269.764.2000

Anthony J. Vitale
Site Vice President

PNP 2015-020

March 25, 2015

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Reply to a Notice of Violation, EA-14-168

Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

Dear Sir or Madam:

By letter dated February 23, 2015, the Nuclear Regulatory Commission issued notice of violation (NOV) EA-14-168 to Entergy Nuclear Operations, Inc. (ENO). The letter documents a violation of the requirements of 10 CFR 20.1201(c) and a violation of Technical Specification 5.4.1.a.

ENO acknowledges the violations and has taken corrective steps to avoid further violations. ENO's reply to NOV EA-14-168 is attached.

This letter contains one new commitment listed in Attachment 2 and no revisions to existing commitments.

Sincerely,

AJV/tad

Attachment: 1. Reply to a Notice of Violation, EA-14-168
2. Summary of Commitments

cc: Administrator, Region III, USNRC
Project Manager, Palisades, USNRC
Resident Inspector, Palisades, USNRC

Attachment 1
Reply to a Notice of Violation, EA-14-168

RESTATEMENT OF VIOLATIONS

1. *Title 10 of the Code of Federal Regulations (10 CFR) Section 20.1201(c) requires, in part, that, when the external exposure is determined by measurement with an external personal monitoring device, the deep-dose equivalent (DDE) must be used in place of the effective dose equivalent (EDEX), unless the EDEX is determined by a dosimetry method approved by the NRC. The assigned DDE must be for the part of the body receiving the highest exposure.*

   Contrary to the above, between February 6 and March 8, 2014, during control rod drive housing replacement work activities at the Palisades Nuclear Plant, the licensee did not use the DDE and the EDEX was not determined by a dosimetry method approved by the NRC. Specifically, the licensee failed to ensure that radiation worker dosimeters (calibrated to the DDE) were located at the highest exposed portion of the respective compartment, a condition of the NRC-approved method for determining EDEX.

2. *Technical Specification 5.4.1.a. states, in part, that "written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978."*

   NRC Regulatory Guide 1.33, Appendix A, Section 7 addresses "Procedures for Control of Radioactivity (For Limiting Materials Released to Environment and Limiting Personnel Exposure)," Section 7.e, addresses "Radiation Protection Procedures," and Subsection 7.e.(7) discusses procedures for personnel monitoring.

   Radiation protection procedure EN-RP-204, "Special Monitoring Requirements," Revision 6, provides instructions and requirements for the relocation of whole body dosimeters and the use and issuance of dosimeters for EDEX monitoring.

   Contrary to the above, between February 6 and March 8, 2014, the licensee failed to establish a procedure for personnel monitoring covering all practical worker positions and shielding geometries prior to implementation during control rod drive housing replacement work activities at the Palisades Nuclear Plant. Specifically, EN-RP-204 did not require locating the dosimeter at the highest exposed portion of the respective body, as required by 10 CFR 20.1201(c), nor did it account for the shielding effects caused by use of tungsten vests.

REPLY FOR VIOLATION 1

REASON FOR THE VIOLATION

Entergy Nuclear Operations, Inc. (ENO) Fleet Procedure EN-RP-204, "Special Monitoring Requirements," lacked pertinent information and restrictions contained in Regulatory Guide 8.40, "Methods for Measuring Effective Dose Equivalent from External Exposure," (EDEX). EN-RP-204 did not contain adequate guidance for determining and validating use of a chest dosimeter as a representative dose for the combined thorax/abdomen compartment.

CORRECTIVE STEPS THAT HAVE BEEN TAKEN

A re-calculation of dose to the affected workers was performed using a NRC approved method. ENO updated the dose exposure records, notified the affected workers, and notified other nuclear power plants of the increased dose assigned to those workers.

As a result of NRC Inspection Report, 05000255/2014010, containing notification of a preliminary white finding, revision 7 of ENO Fleet Procedure EN-RP-204 was published on February 16, 2015. Revision 7 established guidance for implementing a NRC-approved method for measuring EDEX. However, revision 7 contains guidance that is contrary to a NRC position stated in Notice of a Violation, EA-14-168, received on February 23, 2015. Specifically, revision 7 of EN-RP-204 states if an evaluation of the work in-progress indicates a dose gradient across the compartment of more than 1.5 times the dosimeter placement location, then the dosimeter should be relocated to the highest indicated location within the respective compartment. In the Notice of a Violation, EA-14-168, the NRC did not agree that the use of the 1.5 gradient in this manner was an acceptable practice. Therefore, EN-RP-204 requires a revision to remove this guidance.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FUTURE VIOLATIONS

Revision 8 of ENO Fleet Procedure EN-RP-204 will be implemented that will add guidance to meet a NRC-approved method for determining EDEX. Specifically, ensuring radiation worker dosimeters, calibrated to the deep-dose equivalent (DDE), are located at the highest exposed portion of the respective compartment in accordance with Regulatory Guide 8.40.

Lessons-learned as a result of the NRC violations will be incorporated into radiation protection pre-outage and continuing training modules. Key learnings topics include:

- Methods for determining EDEX
- Use of tungsten vests
- Radiation protection field oversight required to reinforce fundamental standards
- Validating assumptions made during the work planning process with respect to worker body positioning

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved by June 9, 2015, with the implementation of revision 8 of ENO Fleet Procedure EN-RP-204, "Special Monitoring Requirements."

REPLY FOR VIOLATION 2

REASON FOR THE VIOLATION

Entergy Nuclear Operations, Inc. (ENO) Fleet Procedure EN-RP-204, "Special Monitoring Requirements," failed to establish adequate guidance for monitoring personnel for all practical worker positions and shielding geometries. Specifically, EN-RP-204 did not require locating the dosimeter at the highest exposed portion of the respective body, in accordance with regulatory requirements, nor did it account for the shielding effects caused by use of tungsten vests.

CORRECTIVE STEPS THAT HAVE BEEN TAKEN

A re-calculation of dose to the affected workers was performed using a NRC approved method. ENO updated the dose exposure records, notified the affected workers, and notified other nuclear power plants of the increased dose assigned to those workers.

As a result of NRC Inspection Report, 05000255/2014010, containing notification of a preliminary white finding, revision 7 of ENO Fleet Procedure EN-RP-204 was published on February 16, 2015. Revision 7 established guidance for implementing a NRC-approved method for measuring EDEX. However, revision 7 contains guidance that is contrary to a NRC position stated in Notice of a Violation, EA-14-168, received on February 23, 2015. Specifically, revision 7 of EN-RP-204 states if an evaluation of the work in-progress indicates a dose gradient across the compartment of more than 1.5 times the dosimeter placement location, then the dosimeter should be relocated to the highest indicated location within the respective compartment. In the Notice of a Violation, EA-14-168, the NRC did not agree that the use of the 1.5 gradient in this manner was an acceptable practice. Therefore, EN-RP-204 requires a revision to remove this guidance.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FUTURE VIOLATIONS

Revision 8 of ENO Fleet Procedure EN-RP-204 will be implemented that will add guidance to adequately monitor personnel. Specifically, ensuring dosimetry is located at the highest exposed portion of the respective body, in accordance with regulatory requirements, and account for the shielding effects caused by use of tungsten vests.

Lessons-learned as a result of the NRC violations will be incorporated into radiation protection pre-outage and continuing training modules. Key learnings topics include:

- Methods for determining EDEX
- Use of tungsten vests
- Radiation protection field oversight required to reinforce fundamental standards
- Validating assumptions made during the work planning process with respect to worker body positioning

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved by June 9, 2015, with the implementation of revision 8 of ENO Fleet Procedure EN-RP-204, "Special Monitoring Requirements."

Attachment 2

Summary of Commitments

This table identifies actions discussed in this letter for which Entergy Nuclear Operations, Inc. (ENO) commits to perform. Any other actions discussed in this submittal are described for the NRC's information and are not commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
ENO will revise EN-RP-204 to add guidance to meet a NRC-approved method for determining EDEX and account for the shielding effects caused by use of tungsten vests.	X		June 9, 2015