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

February 22, 2016

EA–15–039

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

SUBJECT: PALISADES NUCLEAR PLANT, INSPECTION REPORT 05000255/2015013; INVESTIGATION REPORT 3–2012–021; AND APPARENT VIOLATIONS

Dear Mr. Vitale:

This is in reference to an investigation completed on March 10, 2015, by the U.S. Nuclear Regulatory Commission's (NRC's) Office of Investigations (OI) at your Palisades Nuclear Plant (Palisades). The purpose of the investigation was to determine whether personnel at Palisades deliberately failed to provide complete and accurate information to the NRC regarding a safety injection and refueling water storage tank (SIRWT) leak. A Factual Summary, included as Enclosure 1 to this letter, provides a summary of the factual basis for the apparent violations.

Based on the results of NRC's review of this investigation, three apparent violations were identified and are being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's website at http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html. It appears to the NRC that parts of these violations were willful as described in the enclosed factual summary.

The first apparent violation involves the willful failure, on the part of four individuals, to enter information concerning a leak in the SIRWT into the corrective action program as required by Title 10 of the *Code of Federal Regulations* (CFR) Part 50, Appendix B, Criterion V and procedure EN–LI–102, Revision 16. The second apparent violation involves the failure to perform adequate operability determinations of conditions associated with the SIRWT leak as required by 10 CFR Part 50, Appendix B, Criterion V and procedure EN–OP–104, Revision 5. The third apparent violation involves the apparent failure to comply with Technical Specification (TS), surveillance requirement Section SR 3.0.3, when you failed to perform the test within 24 hours or perform a risk evaluation to complete the surveillance at a later date.

Before the NRC makes its enforcement decision, we are providing you with the opportunity to: (1) request a predecisional enforcement conference (PEC); or (2) request alternative dispute resolution (ADR). If a PEC is held, it will be closed to public observation because the NRC's preliminary findings are based on an NRC OI report that has not been publicly disclosed. If you decide to participate in a PEC or pursue ADR, please contact Mr. John Jandovitz at

630–829–9763 within 10 days of the date of this letter. A PEC should be held within 30 days of the receipt of this letter and an ADR session within 45 days of the date of this letter.

If you choose to request a PEC, the conference will afford you the opportunity to provide your perspective on the apparent violations and any other information that you believe the NRC should take into consideration before making an enforcement decision. The decision to hold a PEC does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. This conference would be conducted to obtain information to assist the NRC in making an enforcement decision. The topics discussed during the conference may include: (1) information to determine whether the violations occurred; (2) information to determine the significance of the violations; (3) information related to the identification of the violations; and (4) information related to any corrective actions taken or planned to be taken. In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violations. The guidance from NRC Information Notice 96–28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful.

In lieu of a PEC, you may also request ADR with the NRC in an attempt to resolve this issue. Alternative dispute resolution is a general term encompassing various techniques for resolving conflicts using a neutral third party. The technique that the NRC has decided to employ is mediation. Mediation is a voluntary, informal process in which a trained neutral (the “mediator”) works with parties to help them reach resolution. If the parties agree to use ADR, they select a mutually agreeable neutral mediator who has no stake in the outcome and no power to make decisions. Mediation gives parties an opportunity to discuss issues, clear up misunderstandings, be creative, find areas of agreement, and reach a final resolution of the issues. Additional information concerning the NRC's program can be obtained at http://www.nrc.gov/about-nrc/regulatory/enforcement/adr.html. The Institute on Conflict Resolution (ICR) at Cornell University has agreed to facilitate the NRC's program as a neutral third party. Please contact ICR at 877–733–9415 within 10 days of the date of this letter if you are interested in pursuing resolution of this issue through ADR.

Please be advised that the number and characterization of apparent violations may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter.

In accordance with 10 CFR Section 2.390 of the NRC's “Rules of Practice,” a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC’s Public Document Room or from the NRC’s Agencywide Documents Access and Management System (ADAMS), accessible from the NRC’s website 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.

If you have any questions concerning this matter, please contact Mr. John Jandovitz of my staff at 630–829–9763.

Sincerely,

***/RA Julio Lara Acting for/***

Patrick L. Louden, Director
Division of Reactor Projects

Docket No. 50–255
License No. DPR–20

Enclosure:
Factual Summary of NRC Investigation

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## Factual Summary of NRC Investigation

On June 25, 2012, the U.S. Nuclear Regulatory Commission's Office of Investigations initiated an investigation to determine whether personnel at the Palisades Nuclear Power Plant (Palisades) deliberately failed to provide complete and accurate information to the NRC regarding a safety injection and refueling water storage tank (SIRWT) leak. The investigation was completed on March 10, 2015.

On May 18, 2011, Condition Report (CR) PLP–2011–02491 was initiated when leakage from the ceiling in the Palisades main control room was identified following heavy rains in the area. Chemistry analysis of this leakage revealed several radioactive isotopes including Cobalt–58, a short-lived isotope found in the primary coolant. After repairs were made to the auxiliary building roof, leakage into the control room stopped and did not recur. The Palisades auxiliary building contains the main control room with the catacombs directly above it, and the SIRWT is located on the auxiliary building roof directly above catacombs.

On May 27, 2011, a robotic visual inspection was performed in the catacombs above the control room and below the SIRWT to look for the source of the leakage. This inspection identified boric acid deposits on the catacombs ceiling and floor, and on piping components.

On June 2, 2011, a direct visual inspection (VT–2) was performed in the catacombs that identified two active leaks: one from the catacombs ceiling and one from a 3-inch SIRWT piping flange in the catacombs.

- Condition Report PLP–2011–02738 was initiated for the active flange leak on the 3-inch SIRWT piping flange. The flange bolting material was carbon steel, which is susceptible to boric acid corrosion. In accordance with procedure EM–09–20, "Boric Acid Corrosion Control Program," a boric acid evaluation was required to determine the current and future integrity of the bolts. However, the VT–2 data sheet did not contain information on the material condition of the flange bolting. The CR documented a minor (less than one drop per minute) flange leak on the 3-inch piping flange, but did not identify any through-wall leakage or component wastage. It stated that no degraded or nonconforming condition existed per procedure EN–OP–104, "Operability Determination Process," and T–58 (SIRWT) remained operable.

- Condition Report PLP–2011–02740 was written for the active leak from the catacombs ceiling. The operability determination for this CR was copied directly from CR PLP–2011–02738, which was written to document leakage from the 3-inch piping flange, a separate and different condition. The operability determination did not address the actual CR condition, which was a leak from the ceiling; and therefore, possibly the SIRWT.

On June 8, 2011, a Kepner-Tregoe (K–T) team was formed to investigate and identify potential and most likely leakage source. Leakage collection and analysis of the catacombs ceiling leak took place on almost a daily basis since the initial catacombs inspection. However, the analysis results of the leakage varied throughout the collection timeframe. The team could not identify the source of the leakage with 100% certainty.

On June 13, 2011, a contracted engineering firm, Structural Integrity Associates (SIA), was requested to propose a contract to evaluate a potential SIRWT leak.

On June 16, 2011, CR PLP–2011–03021 was written to document that (RT–71M) for SIRWT and associated piping Code pressure surveillance test had not been conducted at the frequency required by the Code. The operability statement stated that the RT–71M surveillance was required by Technical Specifications (TSs), but incorrectly stated that the surveillance had been completed on June 2, 2011, thereby meeting the surveillance requirements.

On June 30, 2011, the engineering Code program supervisor issued an e-mail stating that if short-lived radioisotopes were identified in leakage samples, the probability of the SIRWT being the leak source was "essentially 100%." Short-lived isotopes had been identified in samples throughout the sampling timeframe; they were first identified in the May 20, 2011, sample.

On July 27, 2011, the K–T team was disbanded.

On August 2, 2011, an industry chemistry consultant was contacted to independently analyze the leakage data. On September 16, the consultant sent an e-mail to the chemistry manager stating that the SIRWT was the likely source of the leakage.

On September 19, 2011, in an e-mail response to questions regarding his conclusions, the consultant replied that there is never 100% certainty in any evaluation of this type. However, the SIRWT isotopic analysis matched up much better than any of the other possible sources.

On September 25, 2011, the chemistry manager e-mailed the former K-T team managers and stated that, although 100% certainty could not be assured, the source of the leakage was the SIRWT.

On December 5, 2011, Structural Integrity Associates Calculation 1100772.301 requested on June 13, 2011, was approved by Palisades.

On February 15, 2012, a draft operability determination using the SIA calculation was developed by Engineering as a contingency.

On February 16, 2012, CR PLP–2012–01091 was generated by Operations to perform an operability evaluation on the SIRWT, since it was the suspected source of the catacombs leakage. When correlating the tritium levels in the SIRWT to the catacombs in-leakage tritium levels, the correlation was sufficient to suspect SIRWT leakage. The CR's operability determination concluded that the SIRWT was operable, using the engineering contingency evaluation developed the previous day.

Repairs to the SIRWT were completed during the March 2012 refueling outage; however, after the outage, additional leakage was identified from the SIRWT and monitored using the leakage acceptance criteria developed in the previous SIA calculation. Leakage progressively worsened until July 2012 when the plant was shut down to conduct additional repairs. The tank floor was replaced during the 2013 fall Refueling Outage.

Based on the evidence gathered in the OI investigation, it appears that four individuals willfully violated NRC requirements by failing to follow site corrective action procedures, when it became known to the individuals that the leakage was most likely originating from the SIRWT. Specifically, these inactions caused the licensee to be in apparent willful violation of Title 10 of the *Code of Federal Regulations*, Part 50, Appendix B, Criterion V, for their failure to follow procedure EN–LI–102, "Corrective Action Process." Two other apparent violations were also

identified. The first was the failure to follow procedure EN–OP–104, Operability Determination Process. Specifically, the licensee failed to perform an adequate operability determination on an active leak from the catacombs' ceiling and again on an active leak from a SIRWT piping flange. The second apparent violation was for the licensee's failure to meet the requirement of TS surveillance requirement Section SR 3.0.3. Specifically, when the licensee identified surveillance procedure RT–71M, the surveillance to conduct ASME inservice pressure tests of the SIRWT and associated piping, had not been performed within its required schedule, the licensee failed to perform the test within 24 hours or perform a risk evaluation to complete the surveillance at a later date.

If you have any questions concerning this matter, please contact Mr. John Jandovitz of my staff at 630–829–9763.

Sincerely,

***/RA Julio Lara Acting for/***

Patrick L. Louden, Director
Division of Reactor Projects

Docket No. 50–255
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