



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

May 19, 2016

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—PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT 05000255/2016007**

Dear Mr. Vitale:

On April 8, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed a Problem Identification and Resolution (PI&R) inspection at Palisades. The inspection team documented the results of this inspection in the enclosed inspection report.

The inspection examined activities conducted under your licensee as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The team reviewed selected procedures and records, observed activities, and interviewed personnel.

On the basis of the samples selected for review, the team concluded that, overall, the corrective action program (CAP) at Palisades was adequate in identifying, evaluating and correcting issues with various degrees of effectiveness. In particular, the team found that the Palisades staff had a low threshold for identifying issues and entering them into the CAP, and that issues entered in the CAP were appropriately prioritized and evaluated based on plant risk and uncertainty. Corrective actions were generally implemented in a timely manner, commensurate with their safety significance. Operating Experience (OE) was generally entered into the CAP and appropriately evaluated. The use of OE was integrated into daily activities and found to be effective in preventing similar issues at the plant. In addition, self-assessments, audits, and effectiveness reviews were found to be conducted at appropriate frequencies with sufficient depth for all departments. The assessments reviewed were thorough and effective in identifying site performance deficiencies, programmatic concerns, and improvement opportunities. On the basis of the interviews conducted, the team did not identify any impediment to the establishment of a healthy Safety Conscious Work Environment (SCWE) at Palisades. Licensee staff were aware of and generally familiar with the CAP and other station processes, including the Employee Concerns Program, through which concerns could be raised.

Although implementation of the CAP was determined to be adequate, overall, based on the samples reviewed one finding of very low safety significance (Green) was identified in the area of effectiveness of corrective actions. The finding involved a violation of an NRC requirement. Since the finding was of very low safety significance and was entered into the CAP, the NRC is treating this violation as a Non-Cited Violation (NCV) in accordance with Section 2.3.2 of the NRC Enforcement Policy.

If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Palisades.

If you disagree with the cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III and the NRC Resident Inspector at Palisades.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of 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 Public Electronic Reading Room).

Sincerely,

/RA/

Eric Duncan, Chief
Branch 3

Docket No. 50-255
License No. DPR-20

Enclosure: Inspection Report
05000255/2016007

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-255
License No: DPR-20

Report No: 05000255/2016007

Licensee: Entergy Nuclear Operations, Inc.

Facility: Palisades Nuclear Plant

Location: Covert, MI

Dates: March 20 through April 8, 2016

Inspectors: J. Benjamin, Braidwood Senior Resident Inspector
and Team Lead
J. Neurauter, Senior Reactor Inspector
J. Boettcher, Palisades Resident Inspector
M. Jeffers, Reactor Inspector

Approved by: E. Duncan, Chief
Branch 3
Division of Reactor Projects

Enclosure

SUMMARY

Inspection Report (IR) 05000255/2016007; 03/20/2016 – 04/08/2016; Palisades; Biennial Baseline Inspection of the Identification and Resolution of Problems.

This team inspection was performed by the Braidwood Senior Resident Inspector, two Regional Inspectors, and the site Resident Inspector. One Green finding was identified by the team. The finding was considered a Non-Cited Violation (NCV) of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Problem Identification and Resolution

On the basis of the samples selected for review, the inspection team concluded that the Corrective Action Program (CAP) at Palisades was adequate in the areas of identifying, evaluating, and correcting issues with some identified opportunities for improvement. The licensee had a low threshold for identifying problems and entering them into the CAP. However, the team and licensee had identified a number of issues entered into the CAP that had been inappropriately screened out of the CAP because the licensee failed to follow station procedures and classify the issues as 'adverse' instead of 'non-adverse'.

The issues and samples reviewed by the inspection team were consistently found to be promptly entered into the CAP, reviewed by CAP screening committees, and prioritized in a timely manner commensurate with their individual safety significance. Causal evaluations reviewed effectively determined the reason(s) for why an issue had occurred and was used to generate corrective actions. Corrective actions to address the issues entered into the CAP were generally determined to be adequate and timely.

The team identified that the licensee's review of operating experience (OE) for applicability to station design and activities was generally effective. Based on the interviews conducted during the inspection, the team did not identify any impediment to the establishment of a healthy safety conscious work environment (SCWE) at Palisades. Specifically, employees at the site expressed a willingness to raise concerns related to nuclear safety without the fear of retaliation. Additionally, workers were aware of and generally familiar with the CAP process and other processes, including the Employee Concerns Program (ECP), which could be used as a means to raise safety concerns.

Cornerstone: Mitigating Systems

- Green. The team identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly correct a condition adverse to quality. Specifically, the licensee failed to correct a non-conforming condition for containment spray pump P-54A, which was discovered in October 2014, during an NRC component design bases inspection (CDBI). The licensee entered this issue into their CAP as CR-PLP-2016-01646 with an assigned action to resolve the non-conforming condition of the containment spray pump

The team determined that the performance deficiency was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Design Control and adversely affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the performance deficiency identified that the licensee failed to correct a non-conformance between their current as-built configuration, the current licensing bases (i.e., Final Safety Analysis Report (FSAR) Section 6.2.3.1), and the design basis (i.e., Design Basis Calculation EA-ELEC-LDTAB-005) which was identified by the NRC in the 2014 CDBI. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," issued June 19, 2012, and Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," issued June 19, 2012, the team answered "No" to all of the questions. Therefore, this finding was of very low safety significance (Green). The team identified a cross-cutting aspect in the Evaluation component of the Problem Identification and Resolution cross-cutting area because the licensee failed to fully evaluate the original issue identified in the 2014 CDBI to ensure that the corrective actions performed adequately addressed the non-conformance. Specifically, the licensee evaluated the effect of the non-conformance, but failed to correct the underlying non-conformance between the licensing basis, the as-built configuration, and the design basis. [P.2] (Section 4OA2.3)

REPORT DETAILS

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution (71152B)

The activities documented in Sections .1 through .4 constituted one biennial sample of Problem Identification and Resolution (PI&R) as defined in Inspection Procedure (IP) 71152.

.1 Assessment of the Corrective Action Program Effectiveness

a. Inspection Scope

The team reviewed the licensee's CAP implementing procedures and attended selected CAP program meetings to assess the implementation of the CAP by site personnel.

The team reviewed risk- and safety-significant issues in the licensee's CAP since the last NRC biennial PI&R inspection in June 2014. The items selected ensured an adequate review of issues across the NRC cornerstones. The team used issues identified through NRC generic communications, department self-assessments, licensee audits, operating experience reports, and NRC-documented findings as sources to select samples. Additionally, the team reviewed CAP items generated as a result of facility personnel performance in daily plant activities. The team also reviewed CAP items and a selection of completed investigations from the licensee's various investigation methods, including root cause evaluations (RCEs), apparent cause evaluations (ACEs), work group evaluations and common cause evaluations (CCEs).

The team performed a more extensive review of the equipment reliability program which provided the inspectors with an opportunity to sample issues of at least five years of age. Specifically, the team reviewed the licensee's implementation of the program to enhance equipment reliability based upon issues entered into the CAP and industry operating experience.

The team attended Condition Review Group (CRG) and Management Review Committee (MRC) meetings to observe how issues were being screened, prioritized, and evaluated 'real-time' and to obtain insights into the licensee's oversight of the CAP program. The team also interviewed members of the licensee's staff to assess the staff's general CAP understanding.

During the reviews, the team evaluated whether the licensee's actions were in compliance with the facility's CAP and 10 CFR Part 50, Appendix B requirements and associated augmented quality license requirements. Specifically, the team evaluated if licensee personnel were identifying plant issues at the proper threshold, entering the plant issues into the station's CAP, and correcting the issues in a timely manner. For issues that were screened out of the licensee's CAP as 'non-adverse' issues, the team evaluated if the licensee had adequate justification to do so. The team evaluated if issues entered into the CAP had been properly prioritized based on the issue's significance and if actions had either been taken or were planned to be taken to resolve the issue. The team also assessed whether the licensee staff assigned the appropriate

investigation method to ensure that the proper determination of root, apparent, and contributing causes were identified for issues that warranted such review.

b. Assessment

(1) Effectiveness of Problem Identification

Based on the results of the inspection, the team concluded that, overall, the station was effective in identifying issues at a low threshold and was properly entering them into the CAP as required by station procedures. This was evident by the large number of CAP items generated annually, which were reasonably distributed across the various departments. A shared, computerized database was used for creating individual condition reports and for subsequent management of the processes of issue evaluation and response. These processes included determining the issue's significance, addressing such matters as regulatory compliance and reporting, and assigning any corrective actions deemed necessary or appropriate.

The team determined that the station was generally effective at trending low level issues to prevent larger issues from developing. The licensee also used the CAP to document instances where previous corrective actions were ineffective or were inappropriately closed.

Observation: Weakness in Consistently Screening Issues Correctly as Adverse Instead of Non-Adverse

The team reviewed several condition reports in which the licensee had identified instances in which an identified issue was inappropriately screened as a 'non-adverse' issue. Although non-adverse issues can still be assigned corrective actions, they are not managed under the 10 CFR Part 50, Appendix B, quality CAP requirements. Based upon that review, the team selected a sample of 20 historic condition reports that had been previously screened by the licensee as non-adverse. The team selected the condition reports based upon issues that the team believed would require a moderate or detailed level of discussion during the issue screening meetings to make a determination of whether the individual issue should be characterized as adverse or non-adverse. The team identified that based upon the information documented in the condition reports and later discussions with the licensee, that approximately one-third of the issues had been originally screened appropriately as non-adverse, approximately one-third of the issues should have been originally screened as adverse, and the remaining one-third of the issues would require additional research to make a final determination. In some cases, this level of review could require substantial regulatory research to make a definitive determination. The team discussed the results of the review with the licensee, and the licensee agreed with the team's conclusion and initiated prompt action to have the specific issues re-screened. Based upon this review, the team discussed the apparent gap identified and necessity to ensure that issues were appropriately entered into the CAP with licensee staff and management prior to and during the exit meeting.

Observation: Failure to Identify Non-Conformances from Vendor-Related Independent Spent Fuel Storage Installation Calculations

The team identified that the licensee failed to identify a number of non-conforming conditions after the completion of their final acceptance reviews of quality calculations

performed to support future Independent Spent Fuel Storage Installation (ISFSI) campaigns. The technical aspect of the issues had been previously identified by the NRC as part of previous and ongoing inspection activities. The team determined that these examples represented a broader issue and associated weaknesses within the licensee's ability to ensure quality products were received from contracted services and adequately reviewed prior to being accepted as a quality record. Some examples included:

- The team identified technical concerns regarding the adequacy of seismic design input for the stack-up configuration during a postulated safe shutdown earthquake event;
- The team identified stack-up installation non-conformances with respect to the analyzed design configuration; and
- The team identified technical concerns in the calculation that demonstrated the auxiliary building had the structural capacity to withstand stack-up configuration forces during a postulated safe shutdown earthquake event.

These concerns were entered into the licensee's CAP. Final regulatory disposition of these concerns will be addressed in a separate NRC inspection report related to the ongoing Palisades ISFSI project.

(2) Effectiveness of Prioritization and Evaluation of Issues

The team determined that the overall performance in the prioritization and evaluation of issues was effective. The team observed that the majority of issues identified were low level and were either closed to a trend or at a level appropriate to evaluate the issue to gain deeper insights. The CRG meetings, MRC meetings, and Corrective Action Review Board meetings that the team observed were all generally thorough and maintained a high standard for following program requirements.

(3) Effectiveness of Corrective Actions

The team concluded that the licensee was generally effective in addressing identified issues and that the assigned corrective actions were generally appropriate at resolving the problems. The licensee implemented corrective actions in a timely manner, commensurate with their safety significance, including an appropriate consideration of risk. Deficiencies identified using RCE or ACE methodologies were resolved in accordance with the CAP procedural and associated regulatory requirements. Corrective actions to prevent recurrence were generally comprehensive, thorough, and timely. The team sampled corrective actions assignments for selected NRC documented violations and determined that the actions assigned were generally effective and timely.

.2 Implementation of Corrective Actions Following NRC IP 95001 Supplemental Inspection

a. Inspection Scope

The team reviewed the corrective actions that were implemented and the effectiveness reviews of those corrective actions that had been conducted following an IP 95001

supplemental inspection on September 3, 2015. This supplemental inspection was related to a White finding associated with the compromised ability to assess dose while utilizing effective dose equivalent for external exposure (EDEX) for the control rod drive mechanism housing replacement work that was documented in NRC Inspection Report 05000255/2014010 and 05000255/2015007. The results of this supplemental inspection were documented in NRC Inspection Report 05000255/2015011.

b. Assessment

The team reviewed Condition Report CR–PLP–2014–04683 and the associated root cause evaluation report, “EDEX Dose Reevaluation,” and found that most of the associated corrective actions had been implemented. A corrective action associated with the review of the condition report by the ALARA [As-Low-As-Reasonably-Achievable] Committee was scheduled to be completed later in spring 2016. One effectiveness review had also been completed to evaluate the adequacy of the corrective actions implemented. The effectiveness review, conducted in March 2016, examined the screening of revisions to NRC Regulatory Guides as a part of the operating experience procedure and concluded that this action was ineffective in that six of ten revisions to NRC Regulatory Guides released since this action was implemented were not screened in accordance with the operating experience procedure. The licensee documented this issue in their CAP as CR–PLP–2016–01580. Two additional effectiveness reviews will review radiation worker permits that employ the use of EDEX, briefings for workers associated with activities employing the use of EDEX in conjunction with use of tungsten vests, and worker performance during activities in which workers wear tungsten vests and use EDEX dose assessment. These effectiveness reviews had not been completed because EDEX or tungsten vests had not been used for any work completed since this finding was issued, and are currently scheduled to be completed by June 2017. A violation of regulatory requirements was not identified because the licensee identified and addressed this issue in accordance with their procedures.

The team reviewed the corrective actions implemented, the effectiveness review of the corrective action conducted, and the planned effectiveness reviews. The team identified one example where a corrective action did not adequately meet the corrective action attributes discussed in the cause evaluation process. This corrective action was associated with the performance of a gap analysis of NRC Regulatory Guides not addressed in current processes. Due to the number of NRC Regulatory Guides, this action was not adequately scoped to be able to be completed effectively. The licensee determined that the corrective action could be closed with no additional actions. The team reviewed all of this information and determined that the actions implemented were adequate. A violation of a regulatory requirement was not identified because other corrective actions adequately addressed the extent of cause review which was the subject of the action.

c. Findings

No findings were identified.

.3 Failure to Correct Containment Spray Pump Non-conformance

Introduction: The team identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for

the licensee's failure to promptly correct a condition adverse to quality. Specifically, the licensee failed to correct a nonconforming condition associated with containment spray pump P-54A, which was discovered in October 2014, during an NRC component design bases inspection (CDBI).

Description: During the 2014 CDBI, the NRC identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to ensure that electric motors were sized in accordance with the licensing basis. Specifically, the horsepower rating of containment spray pump motor P-54A was less than the power demands as identified in their design calculation.

The NCV identified a discrepancy condition between the current licensing basis, the as-built configuration, and the design calculations resulting in a nonconforming condition. Specifically, the licensee's FSAR, Section 6.2.3.1, stated that the containment spray "motor drivers have been selected to be non-overloading over the entire pump operating range." To the contrary, the licensee's design calculation, EA-ELEC-LDTAB-005, "Emergency Diesel Generators 1-1 and 1-2 Steady State Loadings," Revision 10, identified, in Table C.1, that although the current as-built motor for containment spray pump P-54A was rated for 250 horsepower (HP), the required design power basis demand of the pump motor was 278 HP.

Additionally, the NCV identified an unanalyzed condition of the power demands of the containment spray pump motor when the emergency diesel generator is operating at its maximum allowable frequency and minimum voltage. The calculation identified in Section 4.24 that this operating condition would cause a 6.32 percent increase in the design basis power demands. The team noted calculation EA-ELEC-LDTAB-005 did not analyze or justify the undersized as-built motor condition, nor was there any other analysis that justified this condition.

These issues were discussed with the licensee and the licensee entered the issues into their CAP as CR-PLP-2014-4902 in October 2014. The condition report declared the equipment "Operable-Degraded, Nonconforming" and had a recommended action to determine the impact on the motor as a result of operating above its specified rating. The CDBI team closed the issue to NCV 05000255/2014008-03 in Inspection Report 05000255/2014008. Following the CDBI, the licensee developed and revised several calculations to address the impact on the motor as a result of the emergency diesel generators operating at varying voltages and frequencies. The additional analysis concluded the motor would have a higher than previously analyzed heat-up, but could still perform its specified design function. Subsequently, the condition report was closed on December 21, 2015; however, the licensee failed to address the non-conforming condition between the current licensing basis, the as-built configuration, and the design calculations.

During this PI&R inspection, the team evaluated the adequacy of corrective actions related to this NCV. The team identified that CR-PLP-2014-4902 had been closed out without resolving the non-conforming issue. Specifically, FSAR Section 6.2.3.1 still stated that the containment spray "motor drivers have been selected to be non-overloading over the entire pump operating range." Contrary to this, the power demand as determined by the design analysis was a loading of 119.1 percent of the nameplate value of the motor. Therefore, the design analysis confirmed a condition

which resulted in an overloaded condition of the containment spray pump motor. As a result, the containment spray pump continued to be in a non-conforming condition. This issue was discussed with the licensee, and the licensee entered this issue into their CAP as CR-PLP-2016-01646 with a recommended action to resolve the non-conforming condition of the containment spray pump. The inspectors confirmed that the finding did not result in a loss of operability or functionality per IMC 0326, "Operability Determination & Functionality Assessments for Conditions Adverse to Quality or Safety," since an analysis had been completed to demonstrate the pump would operate in an overloaded condition for the required mission time.

Analysis: The team determined that the failure to correct a non-conforming condition was contrary to 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," and was a performance deficiency. Specifically, the licensee failed to take corrective actions to resolve the discrepancy between the current licensing basis, the as-built configuration, and the design basis with respect to containment spray pump P-54A and its associated motor.

The finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Design Control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the performance deficiency identified that the licensee failed to correct a non-conformance between their current licensing bases (i.e., FSAR Section 6.2.3.1) and the design basis (i.e., Design Basis Calculation EA-ELEC-LDTAB-005), which was identified by the NRC during the 2014 CDBI.

In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," issued June 19, 2012, and Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," issued June 19, 2012, the team answered "No" to all of the questions. Therefore, this finding was of very low safety significance (Green).

The finding has a cross-cutting aspect in the Evaluation component of the Problem Identification and Resolution cross-cutting area because the licensee failed to fully evaluate the initial issue to ensure that the corrective actions performed adequately addressed the non-conforming issue identified during the 2014 CDBI. Specifically, the licensee evaluated the effect of the non-conformance, but failed to correct the underlying non-conformance between the licensing basis, the as-built configuration, and the design basis. [P.2]

Enforcement: Title 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality, such as non-conformances, are promptly identified and corrected.

Contrary to the above, from October 2014 through April 2016, the licensee failed to ensure a condition adverse to quality was promptly corrected. Specifically, the licensee failed to take appropriate corrective actions to address a non-conforming condition of containment spray pump P-54A and its associated motor. However, because this violation was of very low safety significance and was entered into the licensee's CAP

as CR–PLP–2016–01646, with the action to correct the discrepancy between the licensing basis and design basis, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000255/2016007–01, Failure to Correct Containment Spray Pump Non-conformance)**

.4 Assessment of the Use of Operating Experience

a. Inspection Scope

The team reviewed the licensee's implementation of the station's Operating Experience (OE) Program. Specifically, the team reviewed the OE Program implementation procedures and licensee evaluations of external operating experience issues and events. The team also observed meetings and daily activities for the use of issues from OE information to determine whether the licensee was effectively integrating OE into day-to-day plant activities, whether evaluations of issues were proper and conducted by qualified personnel, whether the licensee's OE Program was sufficient to prevent future occurrences of previous industry events, and whether the licensee effectively used OE information in the planning and performance of departmental assessments and facility audits. The team also assessed if corrective actions, as a result of OE, were identified and implemented effectively and in a timely manner.

b. Assessment

The team concluded that, overall, OE was effectively utilized at the station. The team observed that representatives from different sites held periodic meetings to discuss recently published OE. The team reviewed several external OE issues that were applicable to Palisades and determined that generally the issues were adequately entered into the CAP for further evaluation and corrective action. External OE was effectively disseminated across plant departments through daily pre-job briefings, and training when appropriate.

Observation: Missed Opportunity to Disseminate OE to Entergy Nuclear Fleet

The team reviewed a significant number of quality-related ISFSI project concerns with respect to the Entergy Nuclear Fleet corrective action and OE programs. Specifically, a number of non-conformances and design-related issues had been identified after the station's review and acceptance of vendor-related ISFSI calculations that could have been shared with the Entergy Nuclear Fleet to prevent repeating similar mistakes.

The team initially determined that Palisades did not identify ISFSI project condition reports as OE because Palisades considered condition reports related to the vendor calculations and design to be site specific. The team disagreed with this position because the causes behind the issues were generic in nature and vendor-specific (i.e. differences in as-built and as-designed configurations, the lack of sufficient calculation detail and the station's need for vendor assistance to discuss approved quality calculations when questions arose.) The licensee also indicated that the fleet manager for dry fuel storage reviewed all ISFSI-related condition reports, including those issued at Palisades. Following the discussions with the team, the licensee agreed with the team's assessment that this was a missed opportunity to disseminate OE to the Entergy Nuclear Fleet.

Observation: Missed Opportunity to Receive ISFSI-Related OE from other Entergy Sites

The team reviewed a sample of ISFSI-related condition reports that included issues identified at other Entergy plants. The team noted some of these condition reports were issued for vendor calculation and design concerns at other Entergy plants, but had not been entered into the Palisades CAP as OE for evaluation and corrective action consideration. The team discussed this observation with station management and staff. The licensee promptly reviewed the OE and entered the technical issues at other Entergy plants into the CAP and OE Program. Although no specific finding or violation of regulatory requirements were identified through this observation, the team concluded that proper receipt and review of this variety of OE could lead to identifying issues before final acceptance of related products being developed and incorporated into the current licensing basis.

.5 Assessment of Self-Assessments and Audits

a. Inspection Scope

The team assessed the licensee staff's ability to identify and enter issues into the CAP, prioritize and evaluate issues, and implement effective corrective actions through efforts from departmental assessments and audits. The team reviewed Nuclear Oversight (NOS) audits, department self-assessments, and department performance assessment reports. The team interviewed licensee personnel regarding the implementation of the audit and self-assessment programs.

b. Assessment

The team concluded that self-assessments and audits were typically accurate, thorough, and effective at identifying issues and enhancement opportunities at an appropriate threshold. The audits and self-assessments were completed by personnel knowledgeable in the subject area, and the NOS audits were thorough and critical. The department self-assessments were acceptable and of the same level of quality as the NOS audits. The team observed that CAP items had been initiated for issues identified through the NOS audits and self-assessments. The team reviewed the self-assessment performed on the CAP and found no issues and generally agreed with the overall results and conclusions drawn.

c. Findings

No findings were identified.

.6 Assessment of Safety Conscious Work Environment

a. Inspection Scope

The team assessed the licensee's SCWE through a review of the facility's ECP implementing procedures, discussions with the station ECP coordinator, interviews with personnel from various departments, and reviews of condition reports. The individuals interviewed represented various departments onsite including operations, security, engineering, maintenance, radiation protection, and chemistry.

b. Assessment

The team determined that plant staff were aware of the importance of having a strong SCWE and consistently expressed a willingness to raise safety issues without a fear of retaliation. All persons interviewed had an adequate knowledge of the CAP process and expressed a willingness to either initiate a condition report or coordinate with their supervisor to have a condition report written if they became aware of a plant safety issue. Based upon this review, the team did not identify an unacceptable SCWE at the station.

c. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On April 8, 2016, the team presented the inspection results to Mr. A. Vitale, and other members of the licensee staff. The licensee acknowledged the issues presented. The team confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

A. Vitale, Site Vice President
B. Baker, Operations Manager
R. Craven, Production Manager
B. Dodson, Regulatory Assurance Specialist
J. Hardy, Regulatory Assurance Manager
J. Haumersen, Senior Projects Manager
G. Heisterman, Maintenance Manager
D. Malone, Emergency Preparedness Manager
W. Nelson, Training Manager
D. Nestle, Radiation Protection Manager,
K. O'Connor, Design Engineering Manager
P. Russel, Engineering Director
M. Schulthesis, Performance Improvement Manager
C. Smith, Security Superintendent
M. Soja, Chemistry Manager
J. Walker, NOS Supervisor

Nuclear Regulatory Commission

E. Duncan, Branch Chief, Region III, Division of Reactor Projects
J. Benjamin, Senior Resident Inspector, Braidwood

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened/Closed

05000255/2016007-01	NCV	Failure to Correct Containment Spray Pump Non-conformance (Section 4OA2)
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LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC team reviewed the documents in their entirety, but rather, that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

Condition Reports

- CR-PLP-2004-08321; NRC IN 92-18 Concern; December 17, 2004
- CR-PLP-2006-00687; Appendix R – Spurious Operation Concern; February 14, 2006
- CR-PLP-2013-03865; The Senior NRC Resident Identified That There was Not a CR Written to Document Water Intrusion; August 30, 2013
- CR-PLP-2013-04775; Spent Fuel Pool Criticality Analysis Not Updated for Extended Power Uprate; November 5, 2013
- CR-PLP-2013-04775; Spent Fuel Pool Region II Criticality Analysis; November 5, 2013
- CR-PLP-2014-00402; Work was Completed without Respiratory Protection; January 21, 2014
- CR-PLP-2014-00472; SIRWR Potential Vortex Issue Identified by NRC CDBI Team”; September, 12, 2014
- CR-PLP-2014-00715; Bladder Lost in Service Water Header; January, 27 2014
- CR-PLP-2014-00858; Worker Received Dose Rate Alarm During Relamping Activities; January 30, 2014
- CR-PLP-2014-01292, Worker Entered Containment Without Electronic Dosimetry, February 11, 2014
- CR-PLP-2014-01176; “CV-823 Work and FME Bladder List in Pipe”; February 8, 2014
- CR-PLP-2014-01401; Worker Received Dose Rate Alarm Upon Entering West Engineered Safeguards Room; February 14, 2014
- CR-PLP-2014-01629; Operator Entered West Engineered Safeguards Room Without Electronic Dosimeter; February 22, 2014
- CR-PLP-2014-02646; Failure to Evaluate Long-Term Scaffolds in Accordance with Procedures; April 17, 2014
- CR-PLP-2014-03086; Inadvertent Water Injected into FP Diesel Fuel Header; May 19, 2014
- CR-PLP-2014-03520; Tracking CR for Site Procedure Changes; June 26, 2014
- CR-PLP-2014-03931; A Green NRC-Identified Finding of Technical Specification 5.7.1, “High Radiation Areas,” was Documented in Inspection Report 2014-003 for Unauthorized Entries into High Radiation Areas, July 31, 2014
- CR-PLP-2014-03932; A Green NRC-Identified Finding of Technical Specification 5.7.1; “High Radiation Areas,” was Documented in Inspection Report 2014-003 for Entries into High Radiation Areas without a Required Monitoring Device; July 31, 2014
- CR-PLP-2014-04155; The NRC Questioned Whether AOP-38 Should Have Been Entered; August 20, 2014
- CR-PLP-2014-04349; Adverse Trend in Radiological Worker Practices was Identified; September 4, 2014
- CR-PLP-2014-04472; Failure to Ensure ESF Are Not Adversely Affected by Air Entrainment; September 12, 2014
- CR-PLP-2014-04665; CDBI Question on Operability Determination Performed Under CR-PLP-2014-00472; September 24, 2014
- CR-PLP-2014-04669; Diesel 1-1 Load Reject Test Not Bounding; September 25, 2014
- CR-PLP-2014-04680; Diesel 1-2 Load Reject Test Not Bounding; September 25, 2015

- CR-PLP-2014-04679; "18 Month EDG Load Reject Issue Identified by NRC CDBI Team" September 25, 2014
- CR-PLP-2014-04680; "EDG Load Reject Issue; CR-PLP-2014-4680;" September 24, 2014
- CR-PLP-2014-04683; Potential White Finding Due to a Compromised Ability to Assess Actual Dose; September 25, 2014
- CR-PLP-2014-04696; CDBI NCV – Inadequate TS; September 26, 2014
- CR-PLP-2014-04860; CDBI NCV – Undersized Cables; October 7, 2014
- CR-PLP-2014-04861; Inoperability of Safety Injection Tank Due to Long Term Leakage; October 7, 2014
- CR-PLP-2014-04864; CDBI NCV – EDG Operation at Worst Case Voltage; October 8, 2014
- CR-PLP-2014-04881; "NRC CDBI Issue Containment Spray Pump Missed Required Testing"; October 8, 2014
- CR-PLP-2014-04902; CDBI NCV – Undersized Motors; October 9, 2014
- CR-PLP-2014-04903; CDBI NCV – UV Relay Timers; October 9, 2014
- CR-PLP-2014-05343; A Green NRC-Identified Finding of Technical Specification 5.4.1, "Procedures," was Documented in Inspection Report 2014-004; November 7, 2014
- CR-PLP-2015-00126; "NRC Issue with Ladder Storage in Seismic Areas"; January 8, 2015
- CR-PLP-2015-00371; Failure to Verify the Adequacy of Credited High Energy Line Break Barriers; January 22, 2015
- CR-PLP-2015-00585; Sprinkler Head Replacement; February 4, 2015
- CR-PLP-2015-01110; ELU Low Electrolyte Level March 15, 2015
- CR-PLP-2015-01251; While Reviewing NRC Information Notice IN-2015-01, an Enhancement Opportunity was Noted; March 24, 2015
- CR-PLP-2015-01388; Failure to Take Appropriate Corrective Action for the Charging System While in Maintenance Rule (a)(1) Status; April 2, 2015
- CR-PLP-2015-01820; Control Room Received Notifications of Seismic Activity Felt; May 2, 2015
- CR-PLP-2015-01837; Event was Overclassified; May 4, 2015
- CR-PLP-2015-01854; NIOS Follow-Up on CR-PLP-2014-04683; May 5, 2015
- CR-PLP-2015-02473; Semi-Annual Leak Tests Not Performed; June 16, 2015
- CR-PLP-2015-02487; VOP-2160 Missing Limiter Plate; June 16, 2015
- CR-PLP-2015-02929; Work Request – Charging Pump P-55A Accumulator Discharge Plug and Poppet Assembly Replacement; July 13, 2015
- CR-PLP-2015-02930; Work Request – Charging Pump P-55B Accumulator Discharge Plug and Poppet Assembly Replacement; July 13, 2015
- CR-PLP-2015-02931; Work Request – Charging Pump P-55C Accumulator Discharge Plug and Poppet Assembly Replacement; July 13, 2015
- CR-PLP-2015-03441; Inaccurate Information Submitted for Relief Request 4-18; August 18, 2015
- CR-PLP-2015-04366; Tracking CR for Site Procedure Changes; September 27, 2015
- CR-PLP-2015-05211; Incorrectly Classified Appendix R ELI Unit as Non-Adverse; October 20, 2015
- CR-PLP-2015-05388; Unlabeled Containers of Radioactive Material; October 26, 2015
- CR-PLP-2015-05741; Compressed Gas Cylinders Storage Issues; December 17, 2015
- CR-PLP-2015-05985; Corrective Action Review Board Rejected Effectiveness Review for LOOP Analysis Related Product; December 3, 2015
- CR-PLP-2015-05996; During the Palisades Mid-Cycle Review a Question was Raised on Identification and Tracking of Control Room Deficiencies; December 3, 2015
- CR-PLP-2015-06106; V-24C Compensatory Action Issue; December 10, 2015
- CR-PLP-2015-06183; DPI-1476 Isolation Valve Failed or Severely Leaking By; December 15, 2015

- CR-PLP-2015-06271; PI&R Readiness Identified Issue – Recorder Parts Issue; December 21, 2015
- CR-PLP-2015-06279; PI&R Readiness Identified Issue – Missed Breaker for Part 21 Applicability Review; December 21, 2015
- CR-PLP-2012-00923; NRC Event Report 47636 Byron Bus Open Phase Review; February 8, 2012
- CR-PLP-2015-03827; Turbine/Rx Trip on Turbine Panel Trouble; September 16, 2015
- CR-PLP-2015-04628; Failed PMT – CV-3046; October 3, 2015
- CR-PLP-2015-04658; Water in Conduit for 2400V Bus 1E S/U XFMR; October 4, 2015
- CR-PLP-2015-04955; VLF Tan Delta Testing of the 2.4kV Bus 1E Feeder Cables from the S/U XFMR 1-2; October 12, 2015
- CR-PLP-2015-06263; Two CRs Inappropriately Screened as Non-Adverse; December 21, 2015
- CR-PLP-2016-00023; Procedure Change Request for Charging Related Operating Procedures; March 22, 2016
- CR-PLP-2016-00114; Identified Performance Deficiency Related to Review of 1R24-Related Air Samples; January 7, 2016
- CR-PLP-2016-00173; M&TE Non-conformance Report; January 11, 2016
- CR-PLP-2016-00304; Severity Lever 3 Leak Downstream of MV-HED159; January 17, 2016
- CR-PLP-2016-00460; Vendor Installed Two 250 Ohm Resistors on Local Process Unit; January 26, 2016
- CR-PLP-2016-01010; 2400V Bus Ground; February 27, 2016
- CR-PLP-2016-01113; Door-142 Not Fully Sealed; March 3, 2016
- CR-PLP-2016-01308; Dry Fuel Storage Transporter Qualification Issues; March 15, 2016
- CR-PLP-2016-01278; SIS “C” Channel Actuation Relay Abnormal Noise; March 14, 2016
- CR-PLP-2016-01384; Chemistry Technician Returned Results that were in Non-Agreement, March 21, 2016, CR-PLP-2016-01439 Breaker 152-205 Megger PM; March 23, 2016
- CR-PLP-2016-01517; Nuclear Independent Oversight Identified Problem: While Performing a Review of Engineering CRs that were Screened as Non-Adverse Address, 23 of 30 should have been Screened as Adverse; March 29, 2016
- CR-PLP-2016-01580; An Effectiveness Review Concluded that the Corrective Action to Prevent Recurrence has been Ineffective; March 31, 2016
- CR-PLP-2016-01694; An Adverse Trend Exists in the Screening of Condition Reports; April 7, 2016
- CR-PLP-2016-01697; Inspector Requested the Site Review of Operating Experience; April 7, 2016

Audit, Assessment, and Self-Assessments

- LO-PLPLO-2014-00034; Operating Experience Program Implementation; June 27, 2014, LO-PLPLO-2014-00065; Operator Fundamentals Snapshot Assessment; January 28, 2014, LO-PLPLO-2014-00132; Effectiveness Review of RCE, CR-PLP-2014-04683; October 14, 2014, LO-PLPLO-2014-00156; Radiological Worker Behaviors/Site Culture Focused Self-Assessment; December 29, 2014
- LO-PLPLO-2014-00171; Protective Tagging Annual Audit; December 29, 2014
- LO-PLPLO-2014-00172; Radiological Hazard Assessment and Exposure Controls Snapshot Assessment; December 29, 2014
- LO-PLPLO-2015-00056; Effectiveness Review of CR-PLP-2015-02166; July 6, 2015
- LO-PLPLO-2015-00080; Palisades Medium Voltage/Low Voltage Cable Reliability Program Focused Self-Assessment; February 17, 2016

Procedures

- Admin 4.12; Operator Work-Around Program; Revision 8
- ARP-19; Startup Transformer 1-2 EK-X04 and Open Phase Detection on SU Trans 1-2; February 29, 2016
- AOP-9; Loss of Bus 1D; Revision 1
- AOP-38; Acts of Nature; Revision 2
- AOP-38; Acts of Nature; Revision 5
- ARP-8; Safeguards Safety Injection and Isolation Scheme EK-13 (EC-13); Revision 81
- CH-1.7; Chemistry Trending Program; Revision 16
- EN-DC-143; Engineering Health Reports; Revision 18
- EN-DC-336; Plant Health Committee; Revision 9
- EN-EC-100; Guidelines for Implementation of the Employee Concerns Program; Revision 9
- EN-LI-108-01; 10 CFR 21 Evaluations and Reporting; Revision 6
- EN-OE-100; Operating Experience Program; Revision 24
- EN-OP-104; Operability Determination Process; Revision 10
- EN-LI-102; Corrective Action Program; Revision 25
- EN-LI-104; Self-Assessment and Benchmark Process; Revision 11
- EN-LI-118-06; Common Cause Analysis (CCA); Revision 4
- EN-LI-118-09; Gap Analysis; Revision 0
- EN-LI-130; Conduct of Licensing; Revision 5
- EN-OE-100; Operating Experience Program; Revision 24
- EN-OP-102; Protective and Caution Tagging; Revision 18
- EN-OP-120; Operator Fundamentals Program; Revision 1
- EN-WM-100; Work Request Generation, Screening, and Classification; Revision 12
- EN-LI-102; Corrective Action Program; Revision 25
- EN-WM-105; Work Planning; Revision 16
- SOP-34; Palisades Plant Computer (PPC) System; Revision 35

Operating Experience

- OE-NOE-2015-00012; NRC-IN-2015-01 – Degraded Ability to Mitigate Flooding Events; January 21, 2015
- OE-NOE-2015-00128; NRC-RIS-2005-20-Rev 2 – Revision to NRC Inspection Manual Part 900 Technical Guidance; June 24, 2015
- OE-NOE-2015-00151; Palo Verde Unit 2 – A Ruptured Discharge Dampener Causes Gas Binding of the Charging Pumps; June 10, 2015
- OE-NOE-2015-00158; NRC-REG-GUIDE-5.83 – Cyber Security Event Notifications; August 5, 2015
- OE-NOE-2015-00170; NRC-2015-REG-GUIDE-5.27 – Revision 1; August 19, 2015

Miscellaneous

- Corrective Action Review Board Meeting Minutes; June 25, 2015
- CRG Screening Package; March 22, 2016
- CRG Screening Package; March 24, 2016
- CRG Screening Package; March 25, 2016
- CGR Screening Package; April 8, 2016
- EA-ELEC-LDTAB-005; Emergency Diesel Generators 1-1 & 1-2 Steady State Loadings; Revision 10

- EC-PLP-55367; Install Larger Sized Power Cables Between EX-04 and 2400V Busses 1C & 1D (Reference Margin Issue 414, SPID 1964, CR-PLP-2014-4860; Revision 0
- Design Basis Document 2.04; Primary Coolant System
- Night and Standing Order Log; March 18, 2016
- Nuclear Independent Oversight Functional Area Performance Report; November 24, 2015
- Nuclear Independent Oversight Functional Area Performance Report; March 9, 2016
- NRC Licensee Event Report 2006-001-00; Millstone Unit 2 Loss of Charging Function
- ML0607760174; Dominion Nuclear Connecticut, Inc. Millstone Power Station Unit 2 Licensee Event Report 2006-001-00 Loss of Charging Function
- Operator Training Slides on Byron Open Phase Event
- PLP-RPT-15-00020; Impact of Operating ECCS Motors above their Service Factor; Revision 0
- WO-419836; Charging Pump Maintenance
- WO-419837; Charging Pump Maintenance
- WO-419838; Charging Pump Maintenance
- WO-497335; Diesel Generator 1-2 Load Reject; October 29, 2014
- WR 00387027; SI Detection CKT #3 Aux Low Pressure Relay; March 14, 2016
- WT-WTPLP-2015-00119, Work Tracker for Flooding-Related Activities; March 25, 2015

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access Management System
CAP	Corrective Action Program
CDBI	Component Design Bases Inspection
CFR	Code of Federal Regulations
CRG	Condition Review Group
ECP	Employee Concerns Program
EDEx	Effective Dose Equivalent for External Exposure
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Issue Report
ISFSI	Independent Spent Fuel Storage Installation
NCV	Non-Cited Violation
NOS	Nuclear Oversight
NRC	U.S. Nuclear Regulatory Commission
OE	Operating Experience
PARS	Publicly Available Records System
PI&R	Problem Identification and Resolution
RCE	Root Cause Evaluation
SCWE	Safety Conscious Work Environment
SDP	Significance Determination Process

A. Vitale

-2-

Although implementation of the CAP was determined to be adequate, overall, based on the samples reviewed one finding of very low safety significance (Green) was identified in the area of effectiveness of corrective actions. The finding involved a violation of an NRC requirement. Since the finding was of very low safety significance and was entered into the CAP, the NRC is treating this violation as a Non-Cited Violation (NCV) in accordance with Section 2.3.2 of the NRC Enforcement Policy.

If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Palisades Station.

If you disagree with the cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III and the NRC Resident Inspector at the Palisades Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of 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 Public Electronic Reading Room).

Sincerely,

/RA/

Eric Duncan, Chief
Branch 3

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Letter to A. Vitale from E. Duncan dated May 19, 2016

SUBJECT: PALISADES STATION, PROBLEM IDENTIFICATION AND RESOLUTION
INSPECTION REPORT 05000255/2016007

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