

Palisades

4Q/2011 Plant Inspection Findings

Initiating Events

Significance:  Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Establish Maintenance Procedures for Safety Related Breakers in Panel D11-2

A finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4 was identified by the inspectors for failure to properly establish written procedures for maintenance that can affect the performance of safety related equipment as required by Regulatory Guide 1.33, Section 9. Specifically, during Refueling Outage 21 (RFO 21) maintenance personnel were conducting breaker testing and replacements on the 125 VDC Panel D11 2 with an inadequate work order package that did not include the appropriate procedure steps for replacing breakers in the panel. Instead, the work order directed maintenance workers in the field to install the breakers using a procedure that was not prescriptive in the reinstallation instructions and did not include signature steps for supervisor verification/inspection of the reinstallation activities. The licensee corrected the improperly installed breakers prior to reactor startup. The licensee also entered the issue in their Corrective Action Program (CAP) as CR-PLP-2012-00648.

The performance deficiency was more than minor because it affected the Initiating Events Cornerstone attribute of Equipment Performance and adversely impacted the objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the breaker replacement workmanship deficiencies from the maintenance performed on Panel D11 2 during RFO 21 led to intermittent operation of some loads supplied by the panel. The finding screened as “Green” in the Initiating Events Cornerstone by answering “no” to the Transient Initiator question of contributing to both the likelihood of a reactor trip and the likelihood that mitigating equipment or functions would not be available. The finding had a cross cutting aspect in the area of human performance related to the cross cutting component of resources, in that the licensee ensures that personnel, equipment, procedures, and other resources are available and adequate to assure nuclear safety and specifically, the training of personnel and a sufficient number of qualified personnel are available to complete tasks commensurate with maintaining nuclear safety

Inspection Report# : [2011005](#) (*pdf*)

Significance:  Dec 31, 2011

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Control Packing Configuration of Pressurizer Spray Control Valves

A finding of very low safety significance was self revealed on September 16, 2011, when the packing for CV 1057, one of two pressurizer spray control valves, failed resulting in unidentified Primary Coolant System (PCS) leakage in excess of TS limits. As a result, the licensee manually tripped the reactor and declared an Unusual Event was declared. The licensee failed to maintain the configuration of the plant in accordance with the design. No violation of regulatory requirements was identified, however, the licensee failed to implement an Entergy procedure, a self-imposed standard. Contrary to the licensee’s Configuration Management procedure, EN DC 105, the intended packing configuration was not installed during RFO 21. Specifically, end rings integral to the design were omitted. As immediate corrective action, the licensee repacked CV 1057 and checked the consolidation of the sister valve, CV 1059. The licensee also entered the issue in their CAP as CR-PLP-2012-04620 and performed a root cause analysis.

The inspectors determined the failure of the packing due to inadequate configuration management was a performance deficiency warranting further evaluation with the Significance Determination Process. The performance deficiency was more than minor because it affected the Initiating Events Cornerstone attribute of Design Control and adversely impacted the objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the issue resulted in PCS leakage greater than TS limits, a manual

reactor trip, and declaration of an Unusual Event. The issue screened as Green, or very low safety significance, in a Phase 3 SDP evaluation performed by regional Senior Reactor Analysts. The finding had a cross cutting aspect in the area of Human Performance associated with the Resources component. Specifically, the licensee failed to ensure that complete, accurate, and up to date design documentation, procedures, and work packages were available and adequate to ensure nuclear safety for maintenance on the pressurizer spray control valves.

Inspection Report# : [2011005](#) (pdf)

Significance: **W** Oct 28, 2011

Identified By: NRC

Item Type: VIO Violation

Failure to Prevent Recurrence of a Significant Condition Adverse to Quality concerning Service Water Pump Couplings.

A self revealed finding with a preliminary low to moderate safety significance and two associated apparent violations of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," and Criterion III, "Design Control," was self-revealed on August 9, 2011, due to the licensee's failure to prevent recurrence of a significant condition adverse to quality. Specifically, on September 29, 2009, coupling #7 on service water pump P-7C failed due to intergranular stress corrosion cracking (IGSCC). The corrective actions taken to prevent recurrence did not consider all critical factors to prevent or minimize IGSCC from recurring. On August 9, 2011, coupling #6 on service pump P-7C failed due to IGSCC. In addition, in 2007, when the licensee implemented a design change to the coupling material, the licensee failed to reasonably address the factors to reduce susceptibility of the 416 stainless steel couplings to IGSCC. This issue was entered into the licensee's corrective action program (CAP) as CR-PLP-2011-03902. Long term corrective actions included replacing all couplings in the three service water pumps with couplings made of a material that was less susceptible to intergranular stress corrosion cracking.

This finding was determined to be more than minor because the finding was associated with the Initiating Events Cornerstone attribute of Design Control and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operation. Specifically, as a result of the performance deficiency, on August 9, 2011, pump P-7C failed during normal operation. The inspectors performed a Phase 1 SDP evaluation and determined that a Phase 2 evaluation was required because this finding contributed to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors then performed a Phase 2 evaluation using the pre solved SDP worksheets for Palisades and determined that this finding screened as Yellow. Due to inherent conservatism in the Phase 2 analysis, the RIII Senior Reactor Analysts performed a Phase 3 SDP analysis. The results of the Phase 3 SDP evaluation concluded that this finding was preliminarily determined to be White. The finding has a cross cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee failed to take into consideration significant operating experience from as early as 1993 and as late as 2010 that linked IGSCC susceptibility of 410 and 416 stainless steels to temper embrittlement (P.2 (b)).

Inspection Report# : [2011016](#) (pdf)

Inspection Report# : [2011020](#) (pdf)

Significance: **Y** Oct 28, 2011

Identified By: NRC

Item Type: VIO Violation

Failure to Have Adequate Work Instructions for Work Performed on Panel D11-2.

A preliminary finding of substantial safety significance (Yellow) and an associated apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed on September 25, 2011. The licensee failed to ensure that the work instructions on safety related 125 Volt direct current (DC) Distribution Panel D11 2 through Work Orders (WO) 291194 01, 291210 01, and 291123 03, all activities that affected quality, were adequate for the scheduled work; and the licensee failed to ensure the work instructions were followed by your staff for the affected activity. As a result of these deficiencies, during the work in the field on the energized Panel D11 2, a positive horizontal bus bar rotated and contacted a negative horizontal bus bar. This in turn, caused an electrical fault in Panel D11 2 and a complete loss of the left train 125 Volt DC safety related system coincident with both 120 Volt preferred alternating current (AC) power sources, busses Y 10 and Y 30. These electrical losses resulted in a reactor and turbine trip at approximately 3:06 p.m. on

September 25, 2011, coincident with a Safety Injection Actuation Signal, Main Steam Isolation Signal, Containment High Radiation Signal, Containment Isolation Signal, Auxiliary Feedwater Actuation Signal, and Containment High Pressure Alarm (no actuation signal). This issue was documented in the licensee's corrective action program as CR PLP 2011 04822 and at the end of this inspection, the licensee continued to perform a root cause evaluation to determine the causes of the event and develop corrective actions. As a remedial corrective action on September 25, 2011, the licensee repaired the damage caused to Panel D11 2 to restore it to service and addressed the operability and effect of the transient on other components.

The inspectors determined that the finding was more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it was associated with the Procedure Quality and Human Performance attributes of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events, that upset plant stability and challenge critical safety functions during power operations. Specifically, the failure to create work orders in accordance with procedures and the failure to perform work in accordance with prescribed instructions directly resulted in the loss of the left train of 125 Volt DC coincident with two preferred AC power sources. The Phase 1 Significance Determination Process (SDP) evaluation determined that the finding contributed to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Therefore, the finding required a Phase 2 evaluation using IMC 0609 Appendix A, "Determining the Significance of At Power Reactor Inspection Findings," which determined the significance was a Yellow Finding. The SRAs used the Palisades SPAR [Simplified Plant Analysis Risk] model, Revision 8.17, for the SDP Phase 3 evaluation. The result of the Phase 3 SDP is a preliminary finding of substantial safety significance (Yellow) with an estimated conditional core damage probability (CCDP) of 1.6E 5. The inspectors also determined this finding had a cross cutting aspect in the area of human performance, work practices, because the licensee failed to communicate and ensure human error prevention techniques were used, such as holding formal pre job briefings, self and peer checking, and proper documentation of activities. The licensee also failed to ensure that these techniques were used commensurate with the risk of the assigned task, such that work activities are performed safely. Finally, during these maintenance activities, the inspectors concluded that licensee personnel proceeded in the face of uncertainty or unexpected circumstances (H.4 (a)).

Inspection Report# : [2011014](#) (*pdf*)

Inspection Report# : [2011019](#) (*pdf*)

Significance:  Oct 28, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Emergency Operating Procedure Immediate Actions.

A finding of very low safety significance and associated non cited violation of Technical Specification 5.4.1 was identified by the inspectors for the failure to implement procedures for combating emergencies and other significant events as required by Regulatory Guide (RG) 1.33, Section 6. Specifically, during the performance of EOP 1.0, "Standard Post Trip Actions," in response to a loss of the left train 125 Volt DC bus and subsequent plant trip, the control room reactor operators failed to immediately take the contingency action in the "response not obtained" column for an immediate action step that could not be met due to the partial loss of control room indications. Procedure EOP 1.0, Step 2.b. of Section 4.0, "Immediate Actions," required the reactor operator in the control room to verify that the Main Generator was disconnected from the grid, and if that step cannot be completed, then the operator was required to connect a jumper across the corresponding relay terminals in the control room panel to open the output breakers. These actions were not immediately taken by the control room staff at the time of this event. Once the control room staff was aware of the "closed" status of the Main Generator output breakers from an update provided by an extra reactor operator who was in contact with transmission system operator, the action step was then taken by the turbine side reactor operator to jumper the relay terminals in the control room panel to open the breakers. This issue was documented in the licensee's corrective action program as CR PLP 2011 06081 and at the end of the special inspection the licensee was still performing an evaluation to determine the causes and to develop corrective actions. As a remedial corrective action on October 28, 2011, each operations crew received a briefing about operator expectations, the usage of human performance tools and procedures, and an overview of the recent events.

The inspectors determined that the finding was more than minor in accordance with IMC 0612 "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because, if left uncorrected, the performance deficiency could have the potential to lead to a more significant safety concern. In particular, this loss of 125 Volt DC event could have

become a more significant event with further complications and plant issues. The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events Cornerstone, dated January 10, 2008. The inspectors answered "No" to the Transient Initiator question of contributing to both the likelihood of a reactor trip and the likelihood that mitigating equipment or functions would not be available and screened the finding as having very low safety significance (Green). The finding had a cross cutting aspect in the area of human performance related to the cross cutting component of Work Practices, in that the licensee communicates human error prevention techniques, such as peer checking, and that these techniques are used commensurate with the risk of the assigned task, such that work activities are performed safely (H.4(a)).
Inspection Report# : [2011014](#) (*pdf*)

Significance:  Aug 25, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Adequately Evaluate the Enclosure Installed Over the 1F/1G Buses.

The inspectors identified a finding of very low safety significance involving the licensee's failure to adequately evaluate the enclosure installed over the 1F/1G Buses to be in compliance with all applicable requirements. Specifically, the licensee did not ensure that the new enclosure would not affect start-up transformer 1-2 during a design basis wind event. There were no violations of NRC regulations identified. This finding was entered into the licensee's corrective action program, which resulted in replacing inadequate eye-bolts.

The performance deficiency was determined to be more than minor because it was associated with the Initiating Events Cornerstone attribute of transient initiator (loss of offsite power) and affected the cornerstone objective to limit the likelihood of those events that upset plant stability. Specifically, there was reasonable doubt as to whether the enclosure could have withstood a design wind event, which would have increased the probability that severe weather could have affected the ability of startup transformer 1 2 to provide offsite power. The finding screened as very low safety significance (Green) because the transient initiator would not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a cross-cutting aspect in human performance because the licensee did not ensure reviews of safety significant decisions to verify the validity of the underlying assumptions or identify possible unintended consequences. Specifically, the licensee's design reviews for the 1F/1G Bus enclosure modification did not address the potential impact on start-up transformer 1-2 if the enclosure failed during a design basis wind event. [H.1(b)]. (Section 1R21.5.b.(1)).

Inspection Report# : [2011009](#) (*pdf*)

Significance:  Aug 25, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Procedures Were Not Appropriate to Address Gas Accumulation Issues.

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to establish appropriate procedures for managing gas accumulation issues. Specifically, three examples were identified as follows: (1) Procedure ESSO 10 did not ensure that identified voids would be successfully removed by flushing; (2) Procedure SOP-3 did not specify a maximum flowrate which analyzed net positive suction head and potential air entrainment due to vortexing during reduced inventory operations when in shutdown cooling; and (3) Procedure SOP 3 did not contain instructions to vent the steam that could form at the low pressure safety injection discharge piping following a shutdown loss of cooling accident prior to system initiation. This finding was entered into the licensee's corrective action program.

The performance deficiency was associated with the Initiating Events and Mitigating System Cornerstones, and determined to be more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern. The finding screened as of very low safety significance (Green) because: (1) Procedure ESSO 10 was a deficiency confirmed not to result in loss of operability in that a review of recent periodic gas monitoring results determined that the affected locations were full of water; (2) Procedure SOP 3 associated with reduced inventory operations did not meet any of the criteria that required a Phase II or III analysis in that it did not rise to the level that there was an increase in the likelihood of a loss of shutdown cooling; and (3) Procedure SOP 3 associated with the

steam void formation did not require a quantitative assessment because it met each item for the core heat removal, inventory control, power availability, containment control, and reactivity guidelines. This finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not thoroughly evaluate relevant external operating experience. Specifically, the licensee's evaluation of gas related issues in response to Generic Letter 2008 01 was deficient in that, the licensee did not identify two potential gas sources, vortexing during reduced inventory and flashing following a shutdown loss of coolant accident, and did not address the minimum flowrate required to remove gas in piping when flushing. [P.2(a)]. (Section 40A5.1c.(2))

Inspection Report# : [2011009](#) (pdf)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Evaluate Corrosion During Reactor Vessel Visual Examination

A finding of very low safety significance and associated NCV of 10 CFR Part 50.55a(g)(6)(ii)(D)(1), "Reactor Vessel Head Inspections," was identified by the inspectors for the licensee's failure to evaluate corrosion present on the reactor vessel head during a Code Case (CC) N-729-1 VE visual examination. The licensee entered the condition into the corrective action program. As a corrective action the licensee compared pictures taken during the 2010 head visual examination with video records from a 2003 visual head examination. Based upon this comparison, the licensee determined that no indication of significant wall loss or structural degradation had occurred. Further, the licensee determined that the surface irregularities observed were caused by a combination of scaling (e.g., rusting) due to high humidity and a rough surface condition caused by the original head forging process and were not the result of boric acid induced corrosion or wastage. Additionally, the licensee determined that the "white spots" on the head were the result of boron staining, white mastic residue used to attach insulation to the head, or chromate water deposits from a previous component cooling water leak. The licensee did not identify any evidence of leakage of boron or boric acid on the head since the 2003 visual head examination. Based upon these observations and conclusions, the licensee determined that the reactor vessel head was operable and acceptable for continued service. The licensee also assigned a corrective action to ensure that an appropriate evaluation of relevant indications was incorporated into the vessel head VE examination procedure.

The finding was determined to be more than minor because the finding was associated with the Initiating Events Cornerstone attribute of Equipment Performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. Absent NRC identification, the failure to evaluate head corrosion could have allowed unacceptable wastage to be returned to service. If areas of corrosion reduced vessel head strength, it could place the reactor coolant system at increased risk for through-wall leakage and/or failure. The licensee completed actions to assess the corrosion and surface irregularities observed and determined that no indication of significant wall loss or structural degradation had occurred. The inspectors answered "No" to the SDP Phase I screening question "Assuming worst case degradation, would the finding result in exceeding the Technical Specification (TS) limit for any reactor coolant system leakage or could the finding have likely affected other mitigation systems resulting in a total loss of their safety function assuming the worst case degradation?" Therefore, the finding screened as having very low safety significance. This finding had a cross-cutting aspect in the area of Human Performance, Decision Making because the licensee staff failed to make conservative assumptions in decisions affecting the integrity of the reactor vessel head. Specifically, the decision to not evaluate areas of corrosion present on the vessel head was not based sufficient information to demonstrate that the proposed action/decision was safe (H.1(b)).

Inspection Report# : [2011003](#) (pdf)

Significance:  Mar 31, 2011

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Maintain Switchgear Weather Proof

A finding of very low safety significance without an associated NCV was self-revealed when a loss of the rear bus and loss of one cooling tower occurred. The licensee failed to maintain the enclosure for F and G busses weatherproof as stipulated in the design basis documents for the 4160V electrical system. In addition, the licensee cancelled a preventive maintenance task to inspect the enclosure's caulking. Due to degradation of the seals, water intruded into the F bus switchgear and caused a short and explosion resulting in loss of one qualified circuit of offsite power. This

resulted in entry into an Emergency Action Level (EAL) of an Usual Event (the lowest emergency classification). As an immediate action, the licensee reduced power to about 55 percent. The licensee entered the finding into their corrective action program (CAP).

The finding was more than minor because it impacted the initiating event cornerstone objective of limiting the likelihood of those events that upset plant stability and is associated with the attribute of equipment performance. Using IMC 0609 Appendix A the inspectors determined the finding was of very low safety significance because even though the issue impacted the transient initiating event frequency, it did not impact the mitigating system availability. The inspectors determined there was no cross-cutting aspect because the causes of the failure to maintain the switchgear enclosure are not reflective of current performance. There was no violation of NRC requirements.

Inspection Report# : [2011002](#) (*pdf*)

Mitigating Systems

Significance: SL-IV Oct 28, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Report a 10 CFR 50.72 Notification for an 8-hour Non-Emergency Report.

A Severity Level (SL) IV non cited violation of 10 CFR 50.72(b)(3)(ii)(B) was identified by the inspectors for the failure to notify the NRC as soon as practical and in all cases within eight hours of the occurrence of any event or condition that results in the nuclear power plant being in an unanalyzed condition that significantly degrades plant safety. Specifically, the licensee failed to report on September 26, 2011, within eight hours an Appendix R noncompliance that was identified in DC shunt trip Breakers 72 01 and 72 02 for the 125 Volt DC system following the reactor trip that occurred on September 25, 2011. The licensee's preliminary analysis demonstrated that if a shunt trip breaker automatically opened due to fire induced fault currents, then the licensee's Appendix R credited equipment may have been lost unexpectedly, an unanalyzed condition that significantly degrades plant safety. This issue was documented in the licensee's corrective action program as CR PLP 2011 05263 and at the end of the special inspection, the licensee continued to perform a causal evaluation in order to develop corrective actions. As a remedial corrective action, the licensee made the required event notification in Event Notification Number 47322 on October 5, 2011.

The inspectors determined that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, Block 7, Figure 2, because reporting failure violations are considered to be violations that potentially impact the regulatory process and are dispositioned using traditional enforcement. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because the underlying technical issue was evaluated by the SDP and determined to be of very low safety significance. In addition, NRC Enforcement Policy, dated July 12, 2011, Section 6.9.d.9, states, in part, that an example of an SL IV violation is the licensee's failure to make a report required by 10 CFR 50.72.

The associated Performance Deficiency is tracked as item 2011-014-08.

Inspection Report# : [2011014](#) (*pdf*)

Significance:  Oct 28, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Implement Human Performance Tools and to Perform an Infrequently Performed Test or Evolutoin Brief.

A finding of very low significance was identified by the inspectors for the licensee's failure to implement Procedure EN HU 102, "Human Performance Tools," which established standards and expectations for the use of specific human performance tools with the goal to improve personnel and plant performance through human error reduction. The inspectors identified that Procedure EN HU 102 was not implemented for the work performed on September 25, 2011, to install a temporary modification and to address a non conforming condition associated with Panel D11 2. Implementation of the procedure for Panel D11 2 scheduled work required the use of Procedure EN OP 116,

“Infrequently Performed Tests or Evolutions,” and performance of an infrequently performed tests and evolution pre job brief, which the inspectors determined was not performed for the work on September 25, 2011. No violation of NRC requirements occurred. The licensee documented this condition in its corrective action program as CR PLP 2011 04822 and CR PLP 2011 04981. At the end of this inspection, the licensee continued to perform a root cause evaluation to determine the causes of the event and develop corrective actions.

The inspectors determined that the finding was more than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated December 24, 2009, because it was associated with the Procedure Quality and Human Performance attributes of the Mitigating Systems Cornerstone. This adversely affected the cornerstone objective, in that, the failure to utilize human error reduction tools impacted the availability, reliability and capability of systems that responded to initiating events to prevent undesirable consequences. Specifically, the failure to utilize human performance tools directly contributed to the inadequate work planning and preparation scheduled for Panel D11 2 on September 25, 2011. The inspectors determined that the finding could be evaluated using the significance determination process in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 Initial Screening and Characterization of Findings,” Table 4a, for the Mitigating Systems Cornerstone, dated January 10, 2008. The inspectors answered "No" to the Mitigating Systems questions and screened the finding as having very low safety significance (Green). The finding has a cross cutting aspect in the area of human performance, work practices, because the licensee failed to ensure personnel work practices supported human performance through defining and effectively communicating expectations regarding procedural compliance coincident with plant personnel following procedures. Specifically, the licensee personnel failed to reference or implement procedures with human performance tools, which, if implemented, would have required an IPTE brief for the work performed on Panel D11 2 on September 25, 2011 (H.4(b)).

Inspection Report# : [2011014](#) (pdf)

Significance:  Oct 28, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Comply with Work Hour Rules for Non-Covered Workers.

A finding of very low significance was identified by the inspectors for the licensee’s failure to implement Procedure EN FAP OM 006, “Working Hour Limits for Non Covered Workers,” which established standard fleet guidance for working hour limits for Entergy non covered (not covered under 10 CFR 26) workers as defined in EN OM 123, “Working Hour Limits.” The inspectors identified that at least two non covered managers on the nightshift, involved with the work planning and oversight of troubleshooting repair efforts for Panel D11 2, had not followed the standards for work hour limits and did not initiate condition reports when the work hour limits were exceeded, as required by Procedure EN FAP OM 006. Specifically, the inspectors identified that the Duty Station Manager worked approximately 25 consecutive hours from September 23 through September 24, and greater than 72 hours in a 7 day period. The electrical superintendent exceeded the administrative limits of 16 hours in 24 hour period, 26 hours in 48 hour period, 72 hours in a 7 day period, and greater than a 10 hour break between work periods over a consecutive 19 day period of work. No violation of NRC requirements occurred. The licensee documented this condition in its corrective action program as CR PLP 2011 05095 and CR PLP 2011 05116. At the end of this inspection, the licensee continued to perform an apparent cause evaluation and extent of condition to determine extent of the problem and causes for the performance deficiency in order to develop corrective actions.

The issue affected the Mitigating Systems Cornerstone because the 125 Volt DC system work plan development was overseen by the non covered workers. The inspectors determined that the finding was more than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated December 24, 2009, because it revealed weaknesses that, if left uncorrected, could lead to more significant safety concerns associated with overseeing work on safety related equipment. In addition, the inspectors concluded that the failure to implement working hour limitations for non covered workers in Procedure EN FAP OM 006 was more than an isolated instance. The inspectors and Senior Reactor Analyst concluded that the use of IMC 0609, Appendix M, “Significance Determination Process Using Qualitative Criteria,” was the appropriate method for determining the significance. In accordance with IMC 0609, Appendix M, management review of this issue determined that this finding was of very low safety significance since the performance deficiency did not directly contribute to the event, as the non covered workers were involved with the planning and not actual implementation of the work performed on September 25, 2011, on Panel D11 2. The finding has a cross cutting aspect in the area of human performance, resources, because the licensee failed to ensure that personnel and other resources were available and adequate to assure nuclear safety;

specifically, sufficient qualified personnel were available to maintain work hours within working hour guidelines (H.2 (b)).

Inspection Report# : [2011014](#) (*pdf*)

Significance:  Oct 28, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Establish a Procedure for the Loss of a DC Bus and the Simultaneous Loss of Two Preferred AC Power Sources.

A finding of very low safety significance and associated NCV of TS 5.4.1 was identified by the inspectors for the failure to establish a procedure for combating emergencies and other significant events as required by RG 1.33, Section 6. Specifically, Section 6 states, in part, that the loss of electrical power (and/or degraded power sources) is a safety related activity that should be covered by written procedures, and TS 5.4.1 required, in part, that written procedures be established, implemented, and maintained to cover the activities in RG 1.33. The design and licensing basis of the plant includes the loss of a single train of DC power. Although the site has multiple procedures to address the loss of the DC system and individual preferred AC sources, the procedures did not integrate to provide a response that minimized challenges to plant safety. The site has three separate procedures that were used in this event for the loss of one DC bus and loss of one preferred AC source (two sources were lost during the event, hence two of these procedures were used); but not one inclusive procedure to cover the loss of both preferred AC sources simultaneously. The procedures that the crew worked through were inadequate to respond in a timely fashion to changing plant conditions caused by the loss of the left train of DC power. This issue was documented in the licensee's corrective action program as CR PLP 2011 06209 and, at the end of the special inspection, the licensee was still performing an evaluation to determine the causes and to develop corrective actions.

The inspectors determined that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because the finding was associated with the Mitigating Systems Cornerstone attribute of Procedure Quality, and adversely impacted the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the attribute of procedure quality, areas to measure, lists operating (post event) procedures such as abnormal operating procedures, standard operating procedures, emergency operating procedures, and can include off normal procedures, as being items that should be established and maintained to ensure the cornerstone objective is met. The inspectors determined that the finding could be evaluated using the significance determination process in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a, for the Mitigating Systems Cornerstone, dated January 10, 2008. The inspectors answered "No" to the Mitigating Systems questions and screened the finding as having very low safety significance (Green). The finding does not have an associated cross cutting aspect since the last known operating experience for a loss of the 125 Volt DC system occurred in 1981 at the Millstone Nuclear Generating Station.

Inspection Report# : [2011014](#) (*pdf*)

Significance:  Oct 28, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform an Adequate Operability Evaluation.

A finding of very low safety significance and associated non cited violation of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to implement a procedure for an activity affecting quality. Procedure EN OP 104, "Operability Determination Process," required an assessment of the operability for structures, systems, and components (SSCs) when degraded or non conforming conditions were identified and establishment of compensatory measures were needed to, "ensure, maintain, and enhance future operability." Specifically, the inspectors identified that the operability evaluation for the 125 Volt DC system, completed on September 30, 2011, did not contain two compensatory measures necessary to ensure the operability of the system. It was also identified that the 50.59 pre screening (process applicability determination) for the temporary modification, which was also a compensatory measure for the operability evaluation, was not clearly written and did not adequately describe the evaluation of the modification or the bases for this decision. This issue was documented in the licensee's corrective action program as CR PLP 2011 04988 and CR PLP 2011 04965 and at the end of the special inspection the licensee was still

performing an evaluation to determine the causes and to develop corrective actions. The licensee's remedial corrective actions included revising the 50.59 pre screening to clearly address the effect of the compensatory measures on other aspects of the facility, prohibiting maintenance on the energized 125 Volt DC busses, and issuing additional site guidance for the operation of battery chargers.

The inspectors determined that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because the finding was associated with the Mitigating Systems cornerstone attribute of Equipment Performance, and adversely impacted the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the attribute of equipment performance impacted the availability and reliability of the 125 Volt DC system. The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a, for the Mitigating Systems Cornerstone, dated January 10, 2008. The inspectors answered "No" to the Mitigating Systems questions and screened the finding as having very low safety significance (Green). The finding had a cross cutting aspect in the area of human performance related to the cross cutting component of Decision Making, because the licensee did not adequately conduct an effectiveness review of a safety significant decision to verify the validity of the underlying assumptions and identify possible unintended consequences, as necessary (H.1(b)).

Inspection Report# : [2011014](#) (pdf)

Significance:  Oct 14, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Maintain Design and Procurement Control of the 125-Volt DC System.

A self revealed finding of very low safety significance (Green) and associated NCV of Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," and Criterion IV, "Procurement Document Control," was identified for the licensee's failure to establish measures to ensure that the applicable regulatory requirements and design bases were correctly translated into specifications and instructions. In addition, the licensee failed to establish measures to assure that the applicable regulatory requirements and design bases, which were necessary to assure adequate quality, were suitably included or referenced in the documents for procurement of equipment. Specifically, 125 Volt DC Breakers 72 01 and 72 02 were purchased and installed with thermal overloads and instantaneous trips enabled. The design basis stated that the breakers were non automatic and only actuated manually. As a result, on September 25, 2011, when an electrical fault occurred on Panel D11 2, the left train 125 Volt DC bus was lost, because the instantaneous trip device on Breaker 72 01 automatically actuated, propagating the fault through the bus, which resulted in a reactor and turbine trip, and plant transient. This issue was documented in the licensee's corrective action program as CR PLP 2011 4835 and CR PLP 2011 4965 and at the end of the special inspection the licensee was still performing an evaluation to determine the causes and to develop corrective actions. As a remedial corrective action prior to plant startup, the licensee implemented a temporary modification to increase the breaker instantaneous trips and performed an operability evaluation, with compensatory actions for the 125 Volt DC system.

The inspectors determined that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it was associated with the Mitigating Systems Cornerstone attribute of Equipment Performance, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, lack of coordination between Panel D11 2 protective device (FUZ/D11 2) and Breaker 72 01 resulted in the loss of the left 125 Volt DC bus and two preferred AC power sources and complicated plant shutdown during the reactor trip on September 25, 2011, when an electrical fault occurred while working on Panel D11 2. The risk assessment associated with the event on September 25, and the complication caused by the breaker opening, is evaluated and described in the preliminary Yellow AV. The inspectors determined the finding, related to the design deficiency, could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of findings," Table 4a for the Mitigating Systems cornerstone. The inspectors answered "Yes" to Question 1 in Column 2. Therefore, the inspectors determined that this finding could be screened as having very low safety significance (Green), because the finding was a design deficiency confirmed not to result in loss of operability or functionality of a system safety function. In addition, the inspectors also determined that the finding affected the fire protection safe shutdown strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was

required. Based on review of IMC 0609, the inspectors concluded that the finding represented a moderate degradation within the post fire safe shutdown category and performed a Phase 2 analysis. Based on the licensee's evaluation for the loads the inspectors determined that this finding screened as having very low safety significance (Green) per Task 2.3.5, screening check for lack of fire ignition sources and fire scenarios. The inspectors did not identify a cross cutting aspect associated with this finding because Breakers 72 01 and 72 02 were procured and installed in 1981 and therefore, the finding was not reflective of licensee's current performance.

The associated Traditional Enforcement Item is tracked as Item 2011-014-01.

Inspection Report# : [2011014](#) (*pdf*)

Significance: **W** Oct 05, 2011

Identified By: NRC

Item Type: VIO Violation

Improper Lubrication of Turbine Driven Auxiliary Feedwater Pump Linkages

A self-revealed finding of low to moderate safety significance and associated Apparent Violation (AV) of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures and Drawings," occurred for the licensee's failure to follow procedures for lubrication of linkages on the TDAFW pump overspeed trip device. Specifically, during a maintenance window the licensee greased a knife edge on the trip mechanism. The greasing of the knife edge contributed to a trip of the pump on May 10, 2011, as well as rendering the pump inoperable for a period of time in excess of what is allowed by Technical Specifications (TSs). After identification of the grease, the licensee removed the grease, restored the pump to an operable status, and initiated condition report (CR) PLP-2011-02350.

The inspectors concluded that the finding was more than minor because it was associated with the equipment reliability and performance attributes of the Mitigating Systems Cornerstone. In addition, this performance deficiency impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the TDAFW pump could not reliably perform its mitigating function. The inspectors performed a Phase 1 SDP evaluation and determined that a Phase 2 evaluation was required because this finding represented an actual loss of safety function of a single train of equipment for greater than the TS allowed outage time. The inspectors performed a Phase 2 evaluation using the pre-solved SDP worksheets for Palisades and determined that this finding screened as Yellow. In order to realistically assess the significance, IMC 0609 required a Phase 3 SDP evaluation. Based on the Probabilistic Risk Analysis conducted by the Senior Reactor Analyst (SRA), a Significance and Enforcement Review Panel reached a preliminary determination the finding was of low to moderate (White) safety significance. The finding occurred, in part, due to a worker making a change to a work instruction without following the process for procedure revisions. Therefore, the inspectors assigned a cross cutting aspect of H.1(a), risk significant decisions using a systematic process. (Section 4OA3)

Inspection Report# : [2011013](#) (*pdf*)

Inspection Report# : [2011017](#) (*pdf*)

Significance: **G** Sep 30, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Maintain SAMGs

The inspectors identified a finding of very low safety significance for the licensee's failure to review and update the Severe Accident Management Guidelines (SAMGs) as required by the site's procedure review process for SAMG's. Specifically, the SAMG writers' guide and site procedures required periodic or biennial reviews of the SAMGs; however, no reviews had been performed since 2005. In addition, the licensee procedures for design changes require that design changes identify impacts on SAMGs. Because the SAMGs are not required by regulations, the inspectors determined that the failure to update the SAMGs was a finding without an associated violation. The licensee has entered the condition into their corrective action program (CAP), and performed revisions, and established electronic accessibility to the SAMGs.

The inspectors concluded that the failure to review and update the SAMGs as required by the SAMG writers' guide and licensee procedures was a performance deficiency that warranted further evaluations through the SDP. The finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because, the performance deficiency is associated with the

procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the objective to ensure the reliability of systems to respond to initiating events. In addition, the SAMGs are procedures used to mitigate the effects of beyond design basis accidents and, if left uncorrected, would complicate the licensee's response to a severe accident and have the potential to lead to a more significant safety concern. The inspectors concluded that the finding was not more than very low safety significance because it did not degrade any of the mitigating system functions listed in the phase 1 screen. No cross cutting issue existed due to the age of the issue.

Inspection Report# : [2011004](#) (pdf)

Significance:  Aug 25, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

GL 2008-01 Design Reviews Did Not Adequately Assess the Potential to Accumulate Voids Within Piping Systems.

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to adequately review the design of emergency core cooling and containment spray systems with respect to the potential to accumulate voids. Specifically, the design reviews did not consider system interactions, evaluate the acceptability of locations believed to be inaccessible for periodic monitoring, and ensure the validity of the assumption that some high point vents were periodically used to ensure that some locations were full of water when excluding them from periodic monitoring. This finding was entered into the licensee's corrective action program.

The performance deficiency was associated with Mitigating System Cornerstone and determined to be more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, based on a historical review of recent maintenance activities, current process parameters, and, in some locations, ultrasonic examinations, the licensee's operability evaluation concluded there were no adverse voids at these locations. This finding had a cross-cutting aspect in the area of human performance because the licensee did not ensure supervisory oversight of work activities associated with the Generic Letter 2008 01 design reviews such that nuclear safety is supported. Specifically, oversight did not ensure that the contractor's design reviews considered plant specific information such as system interactions and at power operations. [H.4(c)]. (Section 40A5.1c.(1))

Inspection Report# : [2011009](#) (pdf)

Significance:  Aug 25, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Void Size Acceptance Criteria is Non-Conservative.

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to develop conservative void size acceptance criteria. Specifically, the void size acceptance criteria was based on an incorrect safety injection and refueling water base tank elevation and a 10 percent degradation of the design rated flowrates of the pumps. When the correct base tank elevation and lower allowable pump flowrates were considered, the void acceptance criteria were non-conservative. This finding was entered into the licensee's corrective action program.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating System Cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because the finding was a design or qualification deficiency confirmed not to result in loss of operability. Specifically, a review of recent periodic gas monitoring results determined that no voids were present at the suction side of the affected pumps. This finding had a cross-cutting aspect in the area of human performance because the licensee did not ensure supervisory oversight of work activities associated with actions related to Generic Letter 2008 01 such that nuclear safety is supported. Specifically, oversight did not ensure that the contractor's development of void acceptance criteria relied on limiting design values. [H.4(c)]. (Section 40A5.1c.(3))

Inspection Report# : [2011009](#) (pdf)

Significance:  Jun 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Inspect ASME Class 2 Piping

A self-revealed finding of very-low safety significance with an associated NCV of TS 5.4.1, Procedures, occurred for the licensee's failure to properly implement the procedure for inspection of American Society of Mechanical Engineers (ASME) Class 2 piping associated with the Safety Injection and Refueling Water tank. Specifically, while investigating roof leakage into the control room and auxiliary building, boric acid deposits and an active flange leak discovered on piping under the tank roof indicated that this ASME Class 2 piping had not been inspected per the site procedure for approximately 20 years. Upon discovery, this leak would require ASME Code Section XI corrective actions to confirm the structural integrity of the connection. Although the licensee considered the area with the piping inaccessible, while investigating the roof leakage issue, the licensee was able to construct a scaffold and reach the area of concern. The licensee initiated condition reports, cleaned off all of the deposits and completed VT-2 inspections of piping in the area.

The issue was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone, whose objective is to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, boric acid accumulations and leakage impacting a Class 2 system requiring ASME Code Section XI corrective actions could go undetected during further code inspection intervals. Inspection Manual Chapter 0609, Appendix E, example 2c, helped inform that determination because the example states that a finding would be more than minor if degradation existed following periods of missed testing. The finding screened as very low safety significance (Green) by answering 'no' to questions in the Mitigating Systems column of IMC 0609, Attachment 4, Table 4a, since the boric acid accumulations did not result in a loss of function for the impacted components. The inspectors determined that there was no associated cross-cutting aspect due to the age of the issue.

Inspection Report# : [2011003](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Account for Potential Age-Related Degradation in EDG Governors

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, for the failure to recognize and account for potential age-related degradation of capacitors in the emergency diesel generator (EDG) digital reference units design controls. Specifically, the installed capacitors were found beyond industry and vendor recommended useful life and if they were to degrade, could impact safety-related functions of the EDGs. The licensee entered the issue into their Corrective Action Program and replaced the digital reference units.

The issue was more than minor because if left uncorrected, it could become a more significant safety concern because the capacitors would continue to degrade. The finding affected the Mitigating Systems Cornerstone and screened as very low safety significance (Green) based on the assessment that the operability of the EDG was maintained, and answering 'no' to all questions for that cornerstone in IMC 0609 Attachment 4, table 4a. The finding had an associated cross-cutting aspect in the area of Problem Identification and Resolution. Specifically, the licensee did not use operating experience information, including vendor recommendations, to support plant safety in that relevant information was not collected, evaluated, and communicated in a timely manner. Although the part 21 was issued in 2001, the licensee had the opportunity to identify the condition in March 2011 when evaluating the acceptability for continued use of EDG governor components that were also impacted by the 2001 part 21.

Inspection Report# : [2011002](#) (pdf)

Significance:  Mar 22, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Assure Adequate Resolution for Remote Visual Examinations

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure of a licensee non-destructive examination examiner to accomplish activities affecting quality in accordance with procedures. The licensee entered this issue into their corrective action program.

The finding was determined to be more than minor, because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to perform an adequate visual testing examination on liquid Freon piping of refrigeration condensing unit VC 10 did not assure that the intended function of the unit would be maintained consistent with the current licensing basis through the period of ended operation. The finding was of very low safety significance based on a Phase I screening in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase I - Initial Screening and Characterization of Findings," Table 4a because the licensee's re-examination confirmed operability and no loss of safety function. The finding has a cross-cutting aspect in the area of human performance, work practices because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.

Inspection Report# : [2011008](#) (pdf)

Significance:  Mar 22, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Test Results for Diesel Fuel Oil Tanks Not Evaluated

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified by the inspectors for the failure to evaluate test results for tank wall thickness under the scope of the Diesel Fuel Quality and Storage Monitoring Program. Specifically, the licensee did not evaluate the test results associated with the ultrasonic measurement of thickness of the bottom of the 'A' emergency diesel generator day tank and both diesel fire pump day tanks. In addition, the licensee had not developed acceptance criteria for this activity. The licensee entered this issue into their corrective action program. The corrective actions that were been considered at the time of this inspection were the development of an acceptance criteria for tank wall thickness and performing an apparent cause evaluation.

The finding was determined to be more than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance because the finding involved a design or qualification deficiency that did not result in a loss of operability or functionality. Specifically, the ultrasonic examination results showed that the wall thicknesses of the inspected tanks were close to the nominal thickness or greater. The finding had a cross-cutting aspect in the area of human performance because the licensee did not have complete design documentation, procedures, and work packages for performing non-destructive examinations of the bottom walls of the tanks under the scope of the Diesel Fuel Monitoring and Storage Aging Management Program.

Inspection Report# : [2011008](#) (pdf)

Significance:  Mar 22, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Tank T-10A Not Age Managed for Effect of Identified Water

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to promptly correct a condition adverse to quality associated with the emergency diesel generator fuel oil storage tank, T-10A. Specifically, the licensee did not follow Procedure No 3.26 when addressing the accumulated water in between the partial double wall and on the exterior wall of T-10A. The associated aging effects of the water were not properly managed because these conditions were not evaluated. The licensee entered this issue into the corrective action program. The corrective actions that were been considered at the time of this inspection were to perform an assessment of methods used to

integrate operating experiences to their aging management programs, evaluate the cause of not evaluating the potential effects of the water on tank T-10A, and remove the accumulated water.

The finding was determined to be more than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance because the finding involved a design or qualification deficiency that did not result in a loss of operability or functionality. Specifically, the accumulated water in the annulus and on the exterior wall of T-10A had not resulted in the loss of functionality of the tank because there is no indication that either water is leaking from the annulus to the tank interior or fuel oil is leaking into the annulus. The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not identify issues completely because the associated corrective actions focused on the removal of the water and did not consider potential age management of the component.

Inspection Report# : [2011008](#) (*pdf*)

Significance:  Mar 22, 2011

Identified By: NRC

Item Type: FIN Finding

Flow Accelerated Corrosion Program Acceptance Limits Not in Accordance with Design Standard

A finding of very low safety significance was identified by the inspectors for the failure to assure an engineering evaluation was initiated if pipe wall thickness measurements fall below 87.5 percent of nominal pipe wall thickness. Specifically, computer software utilized by the flow accelerated corrosion program was not modified to initiate an engineering evaluation if degraded pipe wall thickness measurements were less than 87.5 percent of nominal pipe wall thickness. The licensee entered this issue into their corrective action program.

The finding was determined to be more than minor because if left uncorrected, the finding would become a more safety significant concern. The inspectors determined that the finding was of very low safety significance because the finding did not involve a design or qualification deficiency; there was no actual loss of safety function, no single train loss of safety function for greater than the Technical Specifications allowed outage time, and no risk due to external events. No violation of regulatory requirements occurred because the affected piping was non-safety-related. The finding has a cross-cutting aspect in the area of Human Performance for the Work Practices component because the licensee failed to provide effective supervisory oversight of work activities such that nuclear safety is supported.

Inspection Report# : [2011008](#) (*pdf*)

Significance:  Mar 22, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Implement Adequate Oil Sampling and Analysis Aging Management Program

A finding of very low safety significance was identified by the inspectors for the failure to: (1) develop and implement an oil sampling and analysis aging management program with specific acceptance criteria and trending requirements; and (2) age manage plant equipment with internal oil coolers for potential pressure boundary and/or heat transfer degradation. The licensee entered these issues into their corrective action program.

The finding was determined to be more than minor because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to: (1) provide specific acceptance criteria and trending requirements; and (2) age manage plant equipment with internal oil coolers for potential pressure boundary and/or heat transfer degradation did not assure that plant equipment within the scope of the oil sampling and analysis aging management program would be maintained consistent with the current design basis through the extended period of operation. The inspectors screened the finding using IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The inspectors determined that the finding was of very low safety significance because the finding did not involve a design or qualification deficiency; there was no actual loss of safety function, no single train loss of safety function for greater than the Technical Specifications allowed outage time, and no risk due to external events. No violation of regulatory requirements occurred. The finding has a cross-cutting aspect in the area of Human

Performance for the resources component because the implementing procedures did not include guidance defining parameters of the program.

Inspection Report# : [2011008](#) (*pdf*)

Barrier Integrity

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Violation of Fatigue Rule Requirements

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR 26.205(d) for the failure to control the work hours of covered workers. Specifically, contract workers violated the minimum days off requirements during the October 2010 refueling outage and were not being tracked and controlled in accordance with licensee procedures. The licensee entered the issue into their Corrective Action Program and reviewed the hours worked and jobs performed by the contract workers.

The issue affected the Barrier Cornerstone because the work being performed involved reactor fuel and was more than minor because if left uncorrected, it could become a more significant safety concern. The finding screened as very low safety significance (Green) based on no known effects to the plant caused by possible worker fatigue. The finding had an associated cross-cutting aspect in the human performance area. Specifically, the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee did not ensure work hours were tracked appropriately for personnel doing covered work.

Inspection Report# : [2011002](#) (*pdf*)

Emergency Preparedness

Significance:  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement the Approved Emergency Classification Scheme

The inspectors identified a finding of very low safety significance with an associated NCV of 10 CFR 50.47(b)(4) for the failure to properly implement the approved Emergency Action Level (EAL) classification scheme. Specifically, the licensee implemented the EAL classification scheme such that an Alert (one occurrence) would not be declared, as it should be, related to degraded performance of safety related equipment as a result of flooding. The licensee has entered the condition into their CAP and conducted training to implement appropriate criteria for declaration of subject EAL.

The inspectors concluded that the failure to implement a standard emergency classification scheme emergency planning drill was a performance deficiency that warranted a significance determination using the SDP. The issue was more than minor because it is associated with the Emergency Response Organization performance attribute of the Emergency Preparedness Cornerstone, and adversely affected the cornerstone objective to ensure that the capability of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency is maintained by the licensee. The issue was of very low safety significance (Green) because it met the example for a Green finding using IMC 0609 Appendix B, "Emergency Preparedness SDP" under Section 4.4 and did not meet the threshold for a greater than green finding in Appendix B since there was no loss or degradation of a Risk-Significant Planning Standard. The finding had an associated cross cutting aspect under the area of human performance in the resources component. Specifically, the licensee did not provide adequate training of personnel.

Occupational Radiation Safety

Significance:  Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Control Dose to Worker in Locked High Radiation Area

A finding of very low safety significance and an NCV was self revealed following the licensee's failure to control dose to workers as specified in the radiation work permit (RWP) and as required by Technical Specification (TS) 5.7.2. Specifically, inadequacies in the licensee's process for performing remote dose monitoring, resulted in workers exceeding their authorized RWP dose limits. Therefore the dose was not controlled as required by TS. The licensee has entered the condition into their corrective action program (CAP). Corrective actions included revising procedures for remote radiological job coverage for workers wearing multiple dosimeters.

The finding was more than minor because it is addressed in Example 6.h of IMC 0612 Appendix E, "Examples of Minor Issues." Additionally, the inspectors determined that the finding was more than minor because it is associated with the program and process attribute, and affected the Occupational Radiation Safety Cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operations. This finding was assessed using IMC 0609, Attachment C for the Occupational Radiation Safety SDP and determined to be of very low safety significance (Green) because this failure did not involve as low as is reasonably achievable (ALARA) planning or work controls; did not result in an overexposure or substantial potential for overexposure and there was not a compromised ability to assess dose. The finding was caused by vague procedural guidance. Consequently, this finding had a cross cutting aspect in the area of human performance resources. Specifically, the licensee ensures that resources are available and adequate to maintain complete, accurate, and up to date procedures.

Inspection Report# : [2011004](#) (pdf)

Significance:  Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Unauthorized Entry to High Radiation Area

A self revealed finding of very low safety significance and associated NCV of TS 5.7.1, occurred when an individual entered a high radiation area without proper authorization. The individual was not knowledgeable of dose rates in the area. The licensee has entered the condition into their CAP. Corrective actions included counseling of the worker and the error was discussed with all Nuclear Plant Operators at shift turnover.

The finding was more than minor because it is addressed in Example 6.h of IMC 0612 Appendix E, "Examples of Minor Issues." Additionally, the inspectors determined that the finding was more than minor because it is associated with the program and process attribute, and affected the Occupational Radiation Safety Cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operations. This finding was assessed using IMC 0609, Attachment C for the Occupational Radiation Safety SDP and determined to be of very low safety significance (Green) because this failure did not involve ALARA Planning or Work controls; did not result in an overexposure or substantial potential for overexposure and there was not a compromised ability to assess dose. The finding was caused by the worker that did not ask for a peer check before entering the posted high radiation area. Consequently, this finding had a cross cutting aspect in the area of human performance work practices. Specifically, human error prevention techniques, such as self and peer checking are used.

Inspection Report# : [2011004](#) (pdf)

Public Radiation Safety

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Establish a Back-up Radiation Monitor

The inspectors identified a finding of very low safety significance and associated NCV of TS 5.5.1 for failure to establish, implement and maintain the Offsite Dose Calculation Manual (ODCM). Specifically, the licensee failed to establish a backup radiation monitor capable of performing monitoring consistent with the primary radiation monitors and ODCM requirements. Over several months, the licensee experienced multiple failures of the steam line and stack radiation monitors. The ODCM provides direction to point a backup monitor at the effected effluent path should the primary monitor fail. The backup radiation monitor could not perform its intended function due to physical obstructions and geometry. The licensee instituted alternate means of monitoring releases when the primary monitor does not work and has entered the condition into the corrective action program.

The inspectors concluded that the failure to establish RIA 2328 to be an effective backup for the stack and steam line radiation monitors was a performance deficiency that warranted a significance determination. Since RIA-2328 potentially impacts both Public Radiation Safety and Emergency Planning Cornerstones, the inspectors reviewed the significance under both cornerstones. For radiation protection, the inspectors compared the issue to the examples in Appendix E, and concluded that example 6.b applied. Example 6.b states that a radiation monitor that cannot perform its safety function with a reasonable level of safety margin is an example of a more than minor issue. Further, the inspectors determined the finding was more than minor because it impacted the Public Radiation Safety Cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation and is associated with the program and process attribute. This finding was assessed using IMC 0609, Attachment D for the Public Radiation Safety SDP and determined to be of very low-safety-significance (Green) because this was not a failure to implement the effluent program and public dose remained less than 10 CFR Part 50, Appendix I, limits. In addition, the radiation monitor is used in the emergency plan for determining an emergency action level. The issue screened out as minor in this cornerstone, because there are other EALs that would be available to ensure the correct classification could be met within required times. There was no cross cutting aspect in that the procedures and radiation monitor have been in place for several years and do not reflect current plant performance.

Inspection Report# : [2011003](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Include The Steam Generator Mausoleum in the Groundwater Protection Risk Ranking Program

The inspectors identified a finding of very low-safety-significance and an associated NCV of TS 5.4.1, Procedures, for the failure to implement procedures and include the steam generator mausoleum in the groundwater risk-ranking program for structures, systems, or components after a small amount of water was identified on the floor that contained Cs-137 and tritium with a credible mechanism to reach groundwater. Specifically, the licensee did not implement Station Procedure EN-CY-111, 'Radiological Groundwater Monitoring Program' to evaluate and document this structure after it was determined to contain radioactive liquids with a single barrier before reaching groundwater. Completion of the groundwater risk-ranking process may have prescribed additional measures to enhance or reinstate leak detection methods for this structure that contains licensed material and for which there is a credible mechanism for licensed material to reach groundwater. The licensee entered the condition into the corrective action program. Corrective actions included creating a recurring action item AR 00107492 to inspect the mausoleum every 6 months and clean up any water.

The finding was more than minor because it affected the Public Radiation Safety Cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain, in that these conditions could result in reduced capability to detect and correct leaks of radioactive material before there is an impact on public dose. It is associated with program and process attribute of this cornerstone. Using IMC 0609, Attachment D, for the Public Radiation Safety SDP, the inspectors determined the finding to be of very low-

safety significance because there is no indication of a spill or release of radioactive material on site or to the offsite environs from this structure and therefore, this finding was not a failure to implement the effluent program and public dose remained less than 10 CFR Part 50, Appendix I, limits. The finding was previously entered in the licensee's corrective action program. However, the licensee failed to take appropriate corrective actions to address issues. Consequently, this deficiency has a cross-cutting aspect in Problem Identification and Resolution (Corrective Action Program) (P.1(d)).

Inspection Report# : [2011003](#) (pdf)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Adequately Manage Changes to the Offsite Dose Calculation Manual

The inspectors identified a finding of very low-safety significance and associated NCV of TS 5.5.1.c, for a change that was made to the ODCM in 2004 to eliminate drinking water well sampling with an inaccurate evaluation for the change. This evaluation failed to address community wells that provide drinking water to homes immediately adjacent to plant property to the south. These community wells are between the plant site and the Covert Township Park. These locations were drinking water wells that were historically sampled until the 2004 ODCM change. This issue was entered into the licensee corrective action program as CR-PLP-2010-1013. The licensee revised the ODCM to add the sampling and analysis of the Palisades Park drinking water well.

The finding was more than minor because it affected the Public Radiation Safety Cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain, in that these conditions could result in reduced capability to detect potential impacts associated with this pathway. It is associated with program and process attribute of this cornerstone. Using IMC 0609, Attachment D, for the Public Radiation Safety SDP, the inspectors determined that the finding was of very low-safety significance because it involved the environmental monitoring program. The finding was previously entered in the licensee's corrective action program. However, the licensee failed to thoroughly evaluate the problem and did not ensure that the problem was resolved. Consequently, this deficiency has a cross-cutting aspect in Problem Identification and Resolution (Corrective Action Program). (P.1(c)).

Inspection Report# : [2011003](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedural Controls for Liquid Radioactive Waste

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4 for failure to establish and implement procedures recommended by Regulatory guide 1.33. Specifically, the licensee failed to establish procedures for liquid radioactive waste and emergency procedures for abnormal releases of radioactivity related to tank T-90 and 91. The licensee has revised procedures to control concentrations of tritium in tanks T-90 and 91 and entered the condition into the Corrective Action Program (CAP).

The inspectors concluded that the failure to maintain procedures as required by TS 5.4 was a performance deficiency that warranted a significance determination. The inspectors determined the finding was more than minor because it impacted the public radiation safety cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation, in that, the licensee failed to meet the program and process attribute of procedures. Since the finding resulted in less than .005 rem exposure to members of the public, the inspectors concluded the finding was of very low safety significance (green) in accordance with IMC 0609, Appendix D. There was no cross-cutting aspect in that the procedures and Updated Final Safety Analysis Review (UFSAR) content have been in place for several years and do not reflect current plant performance.

Inspection Report# : [2011002](#) (pdf)

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : March 02, 2012