

Palisades

4Q/2008 Plant Inspection Findings

Initiating Events

Significance:  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain and Implement Procedure Guidance for Offset Power Source Operability

The inspectors identified an NCV of Technical Specification (TS) 5.4.1 for the failure to maintain and implement procedure guidance for offsite power source operability. Specifically, the procedure guidance for the transmission system operator (TSO) to notify the site when alarm thresholds were reached was not adequately implemented. The alarm set points and guidance in the interface documents between the site and the TSO are inaccurate and were not updated when modifications were made to a site transformer in 2006. The licensee wrote Condition Report (CR) CR-PLP-2008-2303 to address the issue.

The finding is more than minor because it is associated with the reactor safety initiating events cornerstone attribute of grid stability and affects the objective of limiting the likelihood of events that challenge critical safety functions. The inspectors determined that the finding is of very low safety significance (Green), because there were no identified instances which indicated the grid was stressed or the offsite source was inoperable. The finding includes a cross-cutting aspect in the area of human performance in that licensee failed to have accurate procedures for offsite power source operability (H.2(c)).

Inspection Report# : [2008003](#) (*pdf*)

Significance:  Mar 31, 2008

Identified By: NRC

Item Type: FIN Finding

Main Feed Pump trip due to Inadequate Configuration

Introduction: A Green self-revealed finding occurred on January 13 when the 'B' Main Feed Pump failed. The failure occurred due to improper maintenance on the lube oil pump associated with the Main Feed Pump that resulted in a loss of lube oil flow and trip of the Main Feed Pump. The failure was not a violation of NRC requirements. The licensee manually tripped the reactor in accordance with procedures and repaired the Main Feed Pump. The licensee entered the issue into the corrective action program as Concition Report (CR)-PLP-2008-0151 and repaired the pump.

The inspectors concluded that this finding is more than minor in accorcance with Inspection Manual Chapter 0609 because the finding is associated with the increase in the likelihood of an initiating event. specifically, the improper pump assembly led to a partial loss of feed and subsequent plant trip. The inpsectors determined the finding is of very low safety significance, Green, in accordance with the phase one screening checklist because the finding did not affect a mitigating system in addition to being a transient initiator. The finding does not represent a violation of NRC requirements' however, it does represent a failure to meet self imposed requirements to provide task instructions commensurate with the complexity of the work and qualifications of the workers. The finding includes a cross-cutting aspect in the area of Human Performace, Resources due to an inadequate work package (H.2(c)).

Inspection Report# : [2008002](#) (*pdf*)

Mitigating Systems

Significance:  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Testing of Control Room Chillers

The inspectors identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR 50, Appendix B, Criterion XI, "Test Control", for the inadequate testing of the heat removal capacity of the CR HVAC system. Specifically, the licensee isolated refrigerant hot gas bypass flow during the test which increases the heat removal capability of the Chiller. The licensee entered the issue into their corrective action program as CR-PLP-2008-3993 and re-performed portions of the engineering basis calculation to demonstrate margin to account for the hot gas bypass flow.

The finding is more than minor because in accordance with IMC 0612, Appendix E, "Examples of Minor Issues," the inspectors determined that the finding was similar to Example j and resulted in a reasonable doubt as to the operability of the chiller. Based upon a review of the licensee's revised calculation for the CR HVAC system acceptance criteria and the technical specification requirements, the finding screens as very low safety significance (green) using the Phase 1 significance determination process worksheets. The inspectors determined that the finding included a cross cutting aspect in the area of human performance, resources, complete and accurate procedures (H2c) because the surveillance procedure unacceptably preconditioned the chiller.

Inspection Report# : [2008005](#) (*pdf*)

Significance:  Dec 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Emergency Diesel Generator Inoperable in Excess of Technical Specification Requirements

A self-revealed finding of very low safety significance (Green) and an associated NCV of technical specification requirement 3.8.1.b was discovered when metal fragments were found in the valve assembly area of the 1-2 Emergency Diesel Generator (EDG) cylinder 2L. The source of the fragments was a failed spring lock for one of the exhaust valves. Subsequently, the licensee inspected the remaining spring locks on the 1-2 EDG and did an extent of condition analysis for the 1-1 EDG. Inspections of the 1-1 EDG spring locks are planned.

The finding is more than minor because it affected the mitigating system cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. A failure analysis performed by the vendor in conjunction with an apparent cause analysis by the licensee led to an evaluation that the diesel could perform its safety function for at least the 24 hour Probabilistic Risk Assessment (PRA) mission time. Therefore, the finding screens as Green using the significance determination process phase 1 worksheets.

Inspection Report# : [2008005](#) (*pdf*)

Significance:  Dec 04, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Analysis of Emergency Diesel Generator 1-2 Loading During Design Basis Events.

A finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to assure the loading on emergency diesel generator 1 2 was maintained within the 2-hour rating. Specifically, the licensee failed to evaluate the worst case design loading and procedurally allowed manual loading conditions when determining the emergency diesel generator load required for design basis loss-of-coolant-accident and loss-of-offsite-power conditions. The licensee entered the issue into their corrective action program and performed an operability review to verify that the diesel generator would be capable of supplying the calculated load.

The finding was more than minor because it was similar to IMC 0612, Appendix E, Example 3.j, in that there was a

reasonable doubt on the operability of emergency diesel generator 1–2, since emergency diesel generator loading conditions above the 2-hour rating were neither adequately calculated nor periodically tested. The inspectors determined the finding was of very low safety significance because it was a design deficiency that did not result in actual loss of safety function. The inspectors did not identify a cross-cutting aspect associated with this finding because the performance deficiency was related to a historical design issue and not indicative of current licensee performance.

Inspection Report# : [2008009](#) (*pdf*)

Significance:  Dec 04, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Establish Correct Technical Specification Limits.

A finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to correctly translate the applicable design basis into the Technical Specifications limit for the emergency diesel generator, day tank fuel oil volume. Specifically, the licensee failed to incorporate the appropriate emergency diesel generator load profile when calculating the emergency diesel generator fuel oil consumption. The Technical Specifications requirement for the day tank fuel oil volume assured an allowed outage time for the limiting fuel oil transfer pump. This finding resulted in a non-conservative Technical Specifications value. As a result, the licensee implemented compensatory actions to administratively limit the allowed outage time for the limiting fuel oil transfer pump that corresponded to the available day tank fuel.

The inspectors determined that the finding was more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring availability of the emergency diesel generator to respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance because the finding was a design or qualification deficiency confirmed not to result in loss of operability or functionality. The inspectors did not identify a cross-cutting aspect associated with this finding because the performance deficiency was related to a historical design issue and not indicative of current licensee performance.

Inspection Report# : [2008009](#) (*pdf*)

Significance:  Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Degradation of the 3-hour Fire Barrier

The inspectors identified a Green NCV of License condition 2.C.(3), Fire Protection, for failure to maintain a three hour barrier between two safety related rooms. Specifically, the inspectors noted a through-wall crack in the three hour fire wall between the 1-1 and 1-2 diesel rooms. The licensee entered the issue in the corrective action program as CR-PLP-2008-02696 and repaired the crack.

Inspection Report# : [2008004](#) (*pdf*)

Significance:  Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Auxilliary Feed Water Low Suction Pressure Trip Setpoints

The inspectors 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 tank damage from tornado born missiles. Specifically, the licensee used low CST level trips to protect the Auxiliary Feedwater (AFW) pumps but the trips did not protect the pump during certain severe weather conditions (tornado). This issue was entered into the licensee's corrective action program as CR-PLP-2006-00659 and CR-PLP-2006-00961; and the licensee has implemented compensatory actions to ensure the AFW function is available during severe weather.

Inspection Report# : [2008004](#) (*pdf*)

Significance:  Sep 25, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Establish and Implement Procedures Controlling Access to Containment

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1 for failure to implement procedures required to control access into containment. The corrective actions planned by the licensee include developing and implementing a comprehensive containment access control procedure. The issue was entered in the licensee's corrective action program as Condition Report (CR) CR-PLP-2008 3334.

The finding was considered more than minor, because given the need to access containment for licensing basis events, if left uncorrected, the finding could become a more significant safety concern. The inspectors determined the finding was of very low safety significance, (Green), because no event occurred where access to the containment affected the response to any initiating events. This finding involved many recent opportunities to identify that a containment access procedure was not established, implemented, or maintained. Consequently, this finding has a cross-cutting aspect in the area of Problem Identification and Resolution (P.1(a)) because the licensee failed to identify issues completely, accurately, and in a timely manner commensurate with their safety significance.

Inspection Report# : [2008010](#) (*pdf*)

Significance:  Sep 25, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Properly Maintain the Emergency Escape Hatch as an Escape Hatch

A self-revealed finding of very low significance was identified for the failure to ensure the emergency escape hatch would operate as designed when needed. The licensee failed to maintain the hatch in a condition that it could be operated as an emergency escape hatch. The licensee entered this issue into their corrective action program. Immediate corrective actions included a pre-entry brief on door operations, printed operating instructions, and a requirement to have a hammer for hatch operation. This is not a violation of NRC requirements.

The finding was considered more than minor, because the failure to maintain configuration control for the emergency escape hatch could have a credible impact on the licensee's ability to promptly ingress and egress the containment during emergency operations such as fire inside the containment. If left uncorrected, the finding could become a more significant safety concern. The inspectors determined the finding was of very low safety significance, (Green), because no event occurred where access to the containment affected the response to any initiating event.

Inspection Report# : [2008010](#) (*pdf*)

Significance:  Sep 25, 2008

Identified By: NRC

Item Type: FIN Finding

Organizational Evaluation of Shutdown Risk for the Forced Outage.

The inspectors identified a finding of very low safety significance for failure to implement procedure EN-OU-101, "Forced Outage Planning and Preparation." This procedure stated, in part, that forced outages should undergo a risk assessment in accordance with station risk assessment guidance. Upon questioning by the inspectors, it was identified that the station risk assessment group did not review the outage template for risk for the forced outage started on August 5, 2008. The licensee wrote CR-PLP-2008-03485 to address the issue. This is not a violation of NRC requirements, because the licensee's formal method for risk assessment is contained in another procedure. EN-OU-101 provides defense in depth. See section 4OA7 for details on the formal risk assessment.

The inspectors determined that this issue was more than minor, because if left uncorrected the item could become a more significant safety concern. In this case, the licensee failed to realize during their review required by other procedures that partial draining of the pressurizer with a primary vent path open and a short time to core boiling resulted in an Orange risk path. It is reasonable to conclude the review in EN-OU-101 would have detected the

Orange path. This finding was screened as very low safety significance (Green) since the plant was not in reduced inventory and all containment penetrations were capable of prompt closure. The inspectors determined the finding was associated with a cross-cutting aspect in the area of Human Performance, Work Control (H.3(a)), since the licensee did not appropriately plan work activities by incorporating risk insights as recommended by a station procedure. Inspection Report# : [2008010](#) (*pdf*)

G

Significance: Aug 01, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

This is a security related item - see inspection report for details.

This finding, affecting the Mitigating Systems Cornerstone, is related to mitigative measures developed to cope with losses of large areas of the plant; in response to Section B.5.b of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information": therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Human Performance - Facilities & Equipment. See inspection report for more details.

Inspection Report# : [2008007](#) (*pdf*)

G

Significance: Jun 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

High Pressure Safety Injection Train Inoperable

A self-revealed finding and associated NCV of 10 CFR 50 Appendix B Criteria III was identified on March 26 when the licensee attempted to remove the breaker for the 'A' High Pressure Safety Injection (HPSI) pump from its cubicle. An inspection of the Mechanism Operated Cell (MOC) switch revealed that the brazed connection of the bayonet arm to the shaft had failed. This failure prevented automatic opening of an associated HPSI valve. An investigation showed the licensee failed to select equipment that is compatible with installed equipment during modifications to a certain style of breaker. The licensee entered it into their corrective action program as CR-PLP-2008-01392 and corrected the deficiency.

The finding is more than minor because it is associated with the mitigating system attribute of design control and affects the cornerstone objective to ensure availability of systems that respond to initiating events. The inspectors evaluated the finding in accordance with IMC 0609 and determined that although the finding represented inoperability of a TS required system in excess of the allowed outage time, the finding did not represent a loss of safety function for the train. Specifically, the operators could open the affected valve manually from the control and applicable emergency procedures provided direction to open the valve if it did not automatically open on a recirculation action signal. The inspectors consulted with a region III Senior Risk Analyst and confirmed the finding was of very low safety significance, i.e. Green. No cross-cutting aspect is associated with this finding.

Inspection Report# : [2008003](#) (*pdf*)

G

Significance: Jun 30, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Improper Maintenance of Safeguards Transformer

A self-revealed finding occurred on April 1 when a non-safety related, offsite transformer was declared inoperable due to evidence of internal arcing based on gas testing of the load tap change oil reservoir of the transformer. The failure occurred due to improper maintenance on the tap changer during the last outage. The failure was not a violation of NRC requirements. The licensee repaired the safeguards transformer and returned it to service. The licensee entered the issue into the corrective action program as CR-PLP-2008-1500.

The finding is more than minor in accordance with Inspection Manual Chapter 0609 because the finding impacts the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the objective to ensure

availability, reliability and capability of systems which respond to initiating events. Specifically, the improper assembly of parts for the load tap changer led to the arcing in the tap changer oil reservoir, the removal of the transformer from service and declaration of one offsite power source being inoperable and unavailable. The inspectors determined the finding is of very low safety significance, Green, in accordance with the phase one screening checklist because even though the tap changer had one contact on one phase that was not available, the tap changer would have been available to perform its function and tap change during licensed basis events. The finding does not represent a violation of NRC requirements; however, it does represent a failure to meet self-imposed requirements to provide task instructions commensurate with the complexity of the work and qualifications of the workers. The finding includes a cross-cutting aspect in the area of Human Performance, Resources, due to an inadequate work package (H.2(c)).

Inspection Report# : [2008003](#) (pdf)

Significance:  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

1-1 Emergency Diesel Generator Fuel Header Leak

The inspectors identified a Green NCV of 10 CFR 50 Appendix B, Criteria V, "Instructions, Procedures and Drawing" for failure of the licensee to have documented instructions for maintenance of the 1-1 emergency diesel generator (EDG). Specifically, the licensee's procedure for tightening the connection between the fuel oil header and the fuel pump did not require the fasteners to be torqued. Previous corrective action documents and operating experience demonstrated a torque was required. The fuel oil fasteners disconnected from the connection during a run of the EDG requiring engine shutdown. The licensee entered the item into the corrective action process as CR-PLP-2007-04078 and torqued all susceptible bolts on both EDGs.

The inspectors determined the finding is more than minor because the finding impacts the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the objective to ensure availability, reliability and capability of the systems which respond to initiating events. Because this deficiency could have an impact on the EDG ability to adequately deliver fuel to the cylinders required in an accident, and because this condition may have existed (in some state where the bolts could loosen) for some time, the issue required a detailed assessment to evaluate the condition. The inspectors reviewed the licensee's past operability assessment. The assessment concluded the EDG could reasonably perform its safety function for its required mission with some operator intervention around 24 hrs into the event. The inspectors concluded the evaluation was reasonable. Therefore, the inspectors determined the finding is of very low safety significance (Green), because the finding did not cause a loss of safety function and the item screened out in phase I of IMC 0609. The finding includes a cross-cutting aspect in the area of problem identification and resolution in that the licensee failed to communicate operating experience (OE) to the internal stakeholders in a timely manner for relevant issues (P.2(a)).

Inspection Report# : [2008003](#) (pdf)

Significance:  Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Fire Door Was Closed

The inspectors identified a Green Non-Cited Violation (NCV) of License Condition 2.C.(3), Fire Protection, for failure to ensure a fire door between an emergency diesel generator room and a vital switchgear room was closed. This partially open door degraded the fire containment capability assumed in the fire hazards analysis. The fire door was closed and this issue was entered into the licensee's corrective action program as CR-PLP-2008-00075.

The finding is more than minor because it is associated with the protection against external factors (fires) attribute of the mitigating system cornerstone and affected the objective to maintain the reliability and capability of systems that respond to events to prevent undesirable consequences. In accordance with Inspection Manual Chapter 0609, Appendix F, Fire Protection SDP, the inspectors conducted a Phase I SDP screening. The inspectors determined the finding is of very low safety significance (Green), because the fire areas had fully functional, automatic water-based fire suppression which provided adequate coverage in both rooms and no transient combustible loads were present in

either room. The finding includes a cross-cutting aspect in the area of human performance in that human error prevention techniques (H.4(a)), in this case adequate self checking, were not effective in ensuring this door was closed after use.

Inspection Report# : [2008002](#) (*pdf*)

Significance:  Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Monitor the Feedwater System Under 10 CFR 50.65a(1)

The inspectors identified a Green NCV of Title 10, Code of Federal Regulations (CFR) 50.65 for the failure to include a 'B' feed regulating valve deficiency to close during startup operations as a functional failure in the maintenance rule program. The inspectors noted that the failure should have placed the feedwater system into maintenance rule 10 CFR 50.65a(1) status in the fourth quarter of 2007. This caused a lapse in the determination of appropriate system monitoring and goal setting to maintain system reliability. This issue was entered into the licensee's corrective action program as CR-PLP-2008-00562 and the licensee placed the system in a(1) status.

The finding is more than minor because, in accordance with Inspection Manual Chapter 0612, Appendix E, Examples of Minor Issues (example 7b) and Enforcement Manual Section 8.1.11, Maintenance Rule a(1) and a(2) violations are not minor because they involve structures, systems, and components (SSCs) that have demonstrated some degraded performance or condition. The finding is of very low safety significance because there was no design deficiency, the finding did not represent an actual loss of a safety function, nor does this involve a risk significant system for mitigating fire, flood, seismic, or severe weather events. This finding also has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program (P.1(c)) because the licensee failed to thoroughly evaluate the cause and extent of condition of the failed feed regulating valve.

Inspection Report# : [2008002](#) (*pdf*)

Significance:  Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate General Operating Procedure for Mode Transition

The inspectors identified a NCV of Technical Specification (TS) 5.4.1 for the failure to have adequate procedure guidance for the general operating procedures for mode transition to power operations. Specifically the general plant operating procedure for mode transition did not have adequate guidance to ensure the actions required by TS 3.0.4 were completed for failure of a radiation monitor required by TS prior to mode transition. Prior to the mode transition, the licensee completed the required action based on the inspectors' concerns and wrote a CR.

The inspectors determined the failure to have adequate procedures for mode transition in accordance with TS is more than minor because, if left uncorrected, this and other mode transitions could have occurred with less than the required equipment operable or appropriate actions completed, which could become a more significant safety concern. The inspectors determined the finding is of very low safety significance (Green), because the actual mode transition occurred only after completion of the required actions based on the response to the inspectors' concerns. The finding includes a cross-cutting aspect in the area of human performance in that licensee did not adequately use conservative assumptions in decision-making to demonstrate the proposed action was safe (H.1(b)).

Inspection Report# : [2008002](#) (*pdf*)

Significance:  Mar 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Comply with TS 3.8.4 B and C

A self revealing NCV of TS 3.8.4 B and C was identified for failing to recognize that battery cell parameters were not within TS limits and for failing to take actions in accordance with TS for an inoperable battery. Specifically, cell 43 of the right train safety-related battery (ED02) was below technical specifications for individual cell voltage without

recognition by the site staff. As a result, compensatory actions and a plant shutdown required by TSs were not completed as required. As an immediate action, the licensee completed the required actions required by TS including restoration of the battery to an operable status.

The inspectors determined the failure to take required actions in accordance with TSs is more than minor because the finding impacts the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the objective to ensure availability, reliability and capability of the systems which respond to initiating events. The inspectors determined the finding is of very low safety significance (Green), because the finding did not cause a loss of safety function for the right train battery. The finding includes a cross-cutting aspect in the area of human performance in that human error prevention techniques (H.4(a)), in this case an adequate pre-job brief, were not effective in ensuring prompt notification of the shift manager.

Inspection Report# : [2008002](#) (*pdf*)

Significance:  Mar 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Comply with TS 3.5.2 B and C

A self revealing NCV of TS 3.5.2 B and C was identified for the inability of an automatic valve in the Emergency Core Cooling System (ECCS), CV-3047, to reposition fully closed on an actuation signal. As a result, one train of ECCS was inoperable for longer than allowed by technical specifications. When the licensee identified that the valve would not fully close, the licensee took the actions required by TS and repaired the valve.

The inspectors determined the failure to take required actions in accordance with TSs is more than minor because the finding impacts the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the objective to ensure availability, reliability and capability of systems which respond to initiating events. During the injection phase of an accident, more flow would bypass the core with the valve approximately 18 percent open, than if the valve had been fully closed. The inspectors determined the finding is of very low safety significance (Green) because the finding is not associated with a loss of safety function for the ECCS system. The finding includes a cross-cutting aspect in the area of human performance in that the licensee did not adequately coordinate work activities to address the impact of actions needed to ensure the valve was closed when the valve was declared inoperable (H.3(b)).

Inspection Report# : [2008002](#) (*pdf*)

Barrier Integrity

Significance:  Sep 25, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Develop and Maintain Containment Personnel and Emergency Escape Hatch Procedures

The inspectors identified a finding of very low safety significance and associated NCV of TS 5.4.1.a, for the failure to ensure the personnel and emergency escape hatch instructions were adequately maintained and properly implemented for use during a time when the containment was occupied. The licensee entered this issue into their corrective action program. Immediate corrective actions included a pre-entry brief on the hatch operations; printed operating instructions for the personnel and emergency escape hatches including proper closing techniques, a picture of where to hit the lever on the emergency escape hatch; and a hammer to take into containment.

The finding was determined to be more than minor, because the issue contributed to the failure of personnel to properly close the outer personnel hatch as well as the inability to close the outer escape hatch while it was required to be closed for containment integrity. This finding was similar to IMC 0612, Appendix E, Section 4, example d, in that the performance deficiency was shown to significantly impact the operator's ability to do the task. The finding affects the Reactor Safety Cornerstone objective of containment integrity, and the Barrier Integrity attribute of Procedure Quality. This finding was of very low safety significance because the inner personnel hatch and the inner emergency escape hatch were closed and maintained the containment boundary. The inspectors determined the finding was

associated with a cross-cutting aspect in the area of Human Performance, Resources (H.2(c)), because the licensee failed to update written instructions for manipulating plant equipment.

Inspection Report# : [2008010](#) (pdf)

Emergency Preparedness

Occupational Radiation Safety

Significance: **W** Nov 19, 2008

Identified By: NRC

Item Type: VIO Violation

Failure To Assess Dose To Three Workers After A Known Change In Radiological Conditions Near The Spent Fuel Pool

The inspector identified a finding and associated Apparent Violation of 10 CFR 20.1501 for the failure to perform adequate radiological evaluations necessary to properly quantify the radiological hazards to assess the dose from the conditions that were identified through electronic dosimeter alarms (dose rate). On October 4, 2007, after the licensee was notified of unexpected radiological conditions through electronic dosimeter alarms (dose rate), the licensee failed to recognize radiological hazards in the work place associated with the handling and disassembly of fuel reconstitution equipment. Specifically, the licensee failed to recognize the presence of high beta dose rate discrete radioactive particles (DRPs), and alpha contamination and, therefore, failed to assess the radiological hazard associated with the work activity and the dose to the three workers involved. The licensee failed to account for the workers' extremity doses associated with handling the temporary storage baskets (TSBs) and the exposure to the particles. Additionally, the licensee failed to assess the total organ doses to the bone surface from potential intakes of alpha contamination. As corrective actions, the licensee revised monitoring practices for spent fuel pool work.

The finding is more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that the failure to perform evaluations for discrete radioactive particles and alpha contamination impacted the licensee's ability to assess dose to the workers. The inspector determined that this finding was not related to as-low-as-is-reasonably-achievable (ALARA) Planning or Work Controls. The NRC could not determine that there was an overexposure. Additionally, the NRC could not determine that there was a substantial potential for overexposure. The inspector determined that the ability to assess dose was compromised. Specifically, DRPs and alpha contamination were identified following the incident; however, the licensee failed to account for the workers' extremity dose associated with handling temporary storage baskets (TSBs) and to assess the total organ dose to the bone surface from potential intakes of alpha contamination. Based on the Occupational Radiation Safety Significance Determination Process (SDP), the inspector preliminarily determined that the finding is White. The cause of this deficiency had a cross-cutting aspect in the area of Human Performance. Specifically, the licensee failed to utilize conservative assumptions in decision making and did not adopt a requirement to demonstrate that the proposed action is safe in order to proceed (H.1(b)).

Final Significance Determination letter issued 1/30/2009 as a White.

Inspection Report# : [2008011](#) (pdf)

Significance: **G** Nov 19, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Implement Effective Radiological Controls For Working With Equipment In Contact With Failed Fuel

An NRC-identified finding of very low safety significance and associated NCV of 10 CFR 20.1501 was identified for failure to perform adequate radiological evaluations necessary to properly assess the radiological hazards and prescribe appropriate radiological controls necessary to minimize dose to workers associated with failed fuel. Fuel reconstitution, a planned activity for the refueling outage, had a high potential to result in discrete radioactive particles and alpha contamination from the degraded fuel pins. The licensee failed to anticipate these radiological hazards and to implement appropriate controls to minimize exposure to radiation. As corrective actions, the license revised all radiation work permits (RWPs) associated with work in the spent fuel pool.

The finding is more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, the licensee did not implement radiological controls necessary to minimize dose to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, the NRC could not identify an overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The cause of this deficiency had a cross-cutting aspect in the area of Human Performance. Specifically, the licensee failed to appropriately plan the work activity by incorporating risk insights and job site conditions, including environmental conditions, which may impact radiological safety (H.3(a)).

Inspection Report# : [2008011](#) (*pdf*)

Significance:  Nov 19, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Post and Control Access to High Radiation Area

A self-revealed finding of very low safety significance and associated NCV of Technical Specification 5.7.1 was identified for the failure to post and control an area with dose rates greater than 100 millirem/hour as a high radiation area. Specifically, the area of the refuel floor that contained the fuel reconstitution equipment was not posted as a high radiation area. Dose rates of approximately 450 millirem/hour were measured 30 centimeters (cm) from the equipment after three workers received electronic dosimeter alarms (dose rate). As corrective actions, the licensee corrected the radiological posting and controls for the area.

The finding is more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, job specific radiological surveys failed to identify elevated dose rates around the spent fuel pool during fuel reconstitution demobilization. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. This finding appeared to be caused by inadequate coordination of work activities between the radiation protection staff and the contractors. Consequently, the cause of this deficiency had a cross-cutting aspect in the area of Human Performance. Specifically, the licensee failed to appropriately coordinate work activities by incorporating actions to communicate, coordinate, and cooperate with each other during activities in which inter-departmental coordination is necessary to assure plant and human performance (H.3(b)).

Inspection Report# : [2008011](#) (*pdf*)

Significance:  Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Procedures for the Maintenance of PAPR Batteries

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR 20.1703(c) for the failure to implement written procedures to ensure batteries for powered air purifying respirators (PAPRs) are adequately charged before use. As of January 16, 2008, the licensee failed to maintain procedures that provided adequate instructions concerning the charging of PAPR batteries, which resulted in two failures of a PAPR unit to properly function and in the intake of radioactive material on September 9, 2007. As corrective actions, the licensee revised procedures and replaced the battery chargers with a model that indicates battery charge condition. The licensee entered the issue into the corrective action program as CR PLP-2007-04149 and CR-PLP-2008-00229.

The finding is more than minor because it impacted the equipment and instrumentation attribute of the Occupational

Radiation Safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that not providing adequate procedures for control of PAPR battery charging resulted in an unplanned exposure to radioactive material. The finding was determined to be of very low safety significance because it was not an As Low As Reasonably Achievable (ALARA) planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The inspectors did not identify a cross-cutting aspect associated with this finding.

Inspection Report# : [2008002](#) (pdf)

Significance:  Mar 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Use, to the Extent Practical, Process or Other Engineering Controls to Control the Concentration of Radioactive Material in Air

A self-revealed finding of very low safety significance and associated NCV of 10 CFR 20.1701 was identified for the failure to use, to the extent practical, process or other engineering controls to control the concentration of radioactive material in air. On September 12, 2007, the licensee failed to implement effective engineering controls in the reactor containment to reduce the levels of radioactive iodine gases. The failure resulted in elevated levels of airborne radioactivity and the intakes of radioactive material by the licensee's staff. As corrective actions, the licensee conducted a root cause evaluation and has entered the problem in the corrective action program as CR PLP-2007-04002.

The finding is more than minor because it impacted the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that not implementing adequate engineering controls resulted in unplanned exposures to radioactive material. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The engineering controls comprised of a charcoal filtration ventilation system that were planned to be used to control the concentration of radioactive material in air were either depleted soon after placed in service or installed backwards. Consequently, the cause of this deficiency had a cross-cutting aspect (H.3(a)) in the area of Human Performance related to work control. Specifically, the licensee failed to plan and coordinate work activities with planned contingencies and compensatory actions.

Inspection Report# : [2008002](#) (pdf)

Public Radiation Safety

Significance:  Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to incorporate results from the annual land use census

The inspector identified a finding of very low safety significance (Green) and an NCV of Technical Specification 5.5.1 and ODCM Appendix A, Section J.3.c associated with the failure to incorporate the annual land use census in the Radioactive Environmental Monitoring Program.

Inspection Report# : [2008004](#) (pdf)

Significance:  Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Control the Release of Radioactive Material

A self-revealed finding of very low safety significance and associated NCV of 10 CFR 20.1501 was identified for failure to perform an adequate radiological survey to assure compliance with 10 CFR 20.1802, which requires that the

licensee control and maintain constant surveillance of licensed material that is in a controlled area or unrestricted areas and that is not in storage. On January 17, 2008, the NRC notified the licensee that radioactive material was identified by another NRC licensed facility when workers arrived following Palisades refueling outage 1R19. That licensee identified six pairs of footwear and other personal items with radioactive contamination levels between 6,000 and 20,000 disintegrations per minute, which had been improperly released from the Palisades site. As immediate corrective actions, the affected materials were confiscated by the other site. Additionally, the licensee identified two earlier occurrences of inappropriate surveys that were performed early in the refueling outage that resulted in the inadvertent release of radioactive material. As corrective actions, the licensee planned to implement new procedure documents, and the issue was entered into the licensee's corrective action program as Condition Reports CR-PLP-2007-04338 and CR-PLP-2008-01180.

The finding is more than minor because it impacted the program and process attribute of the Public Radiation Safety Cornerstone and it adversely affected the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive material released into the public domain, in that inadequate surveys resulted in the failure to control radioactive material. The finding was determined to be of very low safety significance because it was a radioactive material control finding, it was not a transportation finding, and it did not result in public dose greater than 0.005 rem. The finding was caused by the decision to allow manual release surveys of a large number of workers that alarmed the personal contamination monitor, which overwhelmed the ability of the radiation protection staff to conduct effective monitoring of personnel. Consequently, the cause of this deficiency had a cross-cutting aspect (H.1(a)) in the area of Human Performance related to decision making. Specifically, the licensee failed to make risk-significant decisions using a systematic process, especially when faced with uncertain or unexpected plant conditions, to ensure safety is maintained.

Inspection Report# : [2008002](#) (*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

Significance: N/A Apr 18, 2008

Identified By: NRC

Item Type: FIN Finding

PI&R Inspection Summary

The inspection team concluded that, based on the samples reviewed, the corrective action (CA) program was capable of effectively identifying, evaluating, and resolving issues. Minor examples of inadequate implementation of the processes were observed and the inspection record indicated that several issues were self-revealed or identified by external organizations. The transition from Nuclear Management Company (NMC) to Entergy had presented challenges, however no significant problems occurred and new management has taken actions to improve CA program performance. Licensee performance with operating experience, self assessments, audits and maintaining a safety conscious work environment was effective.

Inspection Report# : [2008006](#) (*pdf*)

Last modified : April 07, 2009