Perry 1
2Q/2010 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: FIN Finding
FAILURE TO ADHERE TO MAINTENANCE INSTRUCTIONS RESULTED IN LOSS OF RECIRCULATION PUMP 'A'
A finding of very low significance was self-revealed on October 15, 2009, when one of two reactor recirculation pumps failed to transfer to slow speed while operators were attempting to downshift both pumps. The finding involved the licensee's failure to adhere to maintenance instructions when personnel incorrectly assembled a relay contactor during maintenance activities on an 'A' recirculation pump low frequency motor generator relay panel. The improperly assembled contactor led to the failure of the 2A breaker to close and re-energize recirculation pump 'A' in slow speed, which caused the loss of the pump and a subsequent unplanned drop in power. No violation of regulatory requirements occurred, and the issue was entered into the licensee's corrective action program.

The failure to adhere to the maintenance instructions resulted in the loss of recirculation pump 'A,' which caused an actual upset in plant stability, and directly affected the objective for the Initiating Events cornerstone. The finding was more than minor because the reactor recirculation pump failure to downshift affected the equipment performance attributes of availability and reliability of the Initiating Events Cornerstone of Reactor Safety. The issue was of very low safety significance because the finding did not result in exceeding the Technical Specification limit for identified reactor coolant system leakage and did not affect other mitigation systems; the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal/external flood. The primary cause of this finding was related to the cross-cutting area of human performance, per IMC 0305 H.4.a., work practices, human error prevention techniques, because the licensee did not ensure that appropriate human error prevention techniques were used.

Inspection Report# : 2009005 *(pdf)*

Significance: G Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
UNEXPECTED HALF SCRAM DUE TO FAULTY TROUBLESHOOTING PLAN
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," was self-revealed for the licensee's failure to have an appropriate troubleshooting plan for repairing Average Power Range Monitor (APRM) 'A.' Specifically, the troubleshooting plan for inoperable APRM 'A' did not provide proper guidance to the technicians resulting in an unexpected half scram on the reactor protection system and subsequent required operator actions. The licensee entered the error into their corrective action program as CR 09-63991. As part of its corrective actions, the licensee planned to place placards in the APRM cabinets warning of the special instructions to remove and replace the cards.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 4.b, and resulted in operator intervention to change reactor power to maintain reactor power at a stable value. Therefore, the performance deficiency impacted the Initiating Events cornerstone objective to limit the likelihood of those events that upset plant stability. The inspectors determined 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. While the finding increased the likelihood of a reactor trip, it did not increase the likelihood that mitigation equipment would not be available, and therefore, the inspectors determined the finding to be of very low safety significance. The finding has a cross-cutting aspect in the area of human performance, work control, per IMC 0305 H.3(a), because the licensee did not

appropriately plan the work activity consistent with nuclear safety, incorporating risk insights, job site condition, or the need for planned contingencies, compensatory actions and abort criteria. Specifically, licensee personnel did not adequately research the impact of a circuit card's removal and reinsertion into the control circuitry for APRM 'A,' on other related systems contributing directly to an unplanned power transient on the reactor.

Inspection Report# : 2009004 *(pdf)*

Significance: G Sep 30, 2009
Identified By: Self-Revealing
Item Type: FIN Finding
MOISTURE SEPARATOR REHEATER LEVEL SWITCH MAINTENACE CAUSED UNIT TRIP
A finding of very low safety significance was self-revealed on June 21, 2009, for the failure to adequately implement the requirements of Nuclear Operating Procedure (NOP)-WM-4300, Order Execute Process. Specifically, a supervisor authorized work order steps to be performed out of sequence on level switches for the moisture separator reheaters (MSR). The failure to perform steps in order led to some steps being missed and ultimately to a main turbine trip and associated reactor scram. The licensee entered this item into their corrective action program as CR 09-60855. The licensee's immediate actions included response to the reactor scram and formation of a troubleshooting team to conduct a root cause investigation of the failure of the MSR level indicators.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of procedure quality and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability. Specifically, inadequate adjustment and calibration of the level switches following replacement resulted in a main turbine trip and reactor scram from full power. The inspectors determined 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. While the finding resulted in a reactor trip, it did not contribute to the likelihood that mitigation equipment would not be available, therefore, the inspectors determined the finding to be of very low safety significance. This finding has a cross cutting aspect in the area human performance, resources per IMC 0305 H.2(c), because the licensee did not ensure that procedures were adequate to assure nuclear safety. Specifically, the generic instrumentation and control instruction and the work order for conducting maintenance on the moisture separator reheater level switches did not contain critical vendor information or guidance to reflect the significance of taking as found data to support calibration of the replacement switches.

Inspection Report# : 2009004 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECTLY ASSESS RISK DURING POST-MAINTENANCE ACTIVITIES
. A finding of very low safety significance and associated NCV of 10 CFR 50.65(a)(4) was identified by the inspectors for the licensee's failure to accurately assess plant risk during maintenance activities. The inspectors determined that the licensee failed to correctly identify the plant risk condition when the Unit 1 Division 1 Emergency Diesel Generator (EDG) was out of service for maintenance. Specifically, there was a 5 hour period of time that the licensee restored plant risk to GREEN status while the EDG remained unavailable and plant risk was actually YELLOW. The licensee entered the issue associated with their failure to correctly assess the plant risk condition into their corrective action program (CAP).

The performance deficiency was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 7.e, and resulted in actual plant risk being in a higher licensee-established risk category than declared. The finding was of very low safety significance because the risk deficit, or incremental core damage probability deficit (ICDPD) was < 1E-6. This finding had a cross-cutting aspect in the area of Human Performance,

Decision-Making per IMC 0310 (H.1(b)) because the licensee did not use conservative assumptions in decision making nor adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. Specifically, the licensee chose to minimize system unavailability time and as a result did not perform a complete post-maintenance test which would have verified the EDG system was fully functional and available to perform its mission at the end of the maintenance period.

Inspection Report# : 2010002 *(pdf)*

Significance: G Mar 31, 2010
Identified By: NRC
Item Type: FIN Finding
FAILURE TO MAKE AN ACCURATE IMMEDIATE OPERABILITY DETERMINATION
A finding of very low safety significance was identified by the inspectors for the licensee's failure to make an accurate immediate operability determination (IOD) based on the actual plant conditions and the available information to provide reasonable assurance of operability. Specifically, on February 15, 2010, through wall leakage was identified coming from a welded elbow connection of an instrument line associated with the 'B' Emergency Closed Cooling (ECC) system supply to the 'B' control complex chiller heat exchanger. This instrument line is an American Society of Mechanical Engineers (ASME) Section III, Class 3 piping system, and the licensee's IOD declared the 'B' ECC system operable without the degradation mechanism being discernable from visual examination (such as external corrosion or wear) or having substantial operating experience (site specific) with the identified degradation mechanism in the affected system. No violation of regulatory requirements occurred, and the issue was entered into the licensee's CAP.

The performance deficiency was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of "Equipment Performance-Availability, Reliability," and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems to respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was of very low safety significance because a loss of system safety function, or the actual loss of safety function of a single train for greater than its TS-allowed outage time did not occur, and the finding does not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding had a safety culture cross-cutting aspect in the area of Problem Identification and Resolution, related to the Operating Experience component for not implementing and institutionalizing operating experience through changes to station processes, procedures, equipment, and training programs per IMC 0310 (P.2 (b)). Specifically, the requirement for the degradation mechanism of through wall leakage on ASME Section III, Class 2 and 3 piping, to be readily apparent from visual examination in order to support an operable IOD, was not completely understood by operations personnel. This finding did not involve a violation of regulatory requirements.

Inspection Report# : 2010002 *(pdf)*

Significance: G Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO PERFORM AN ADEUQATE POST-MAINTENANCE TEST FOLLOWING INSTALLATION OF NEW EMERGENCY DIESEL GENERATOR CARBON DIOXIDE SYSTEM CONTROL PANELS
A finding of very low safety significance (Green) and associated non-cited violation of license condition 2.C.(6), Fire Protection, was self-revealed for the licensee's failure implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report (FSAR). Specifically, the licensee failed to ensure that, "…the main floor [of the Diesel Generator Building] is protected by a total flooding carbon dioxide system for fire suppression." The licensee had installed a permanent modification to the carbon dioxide system for the diesel generator room, but had chosen not to conduct complete post modification testing. The failure to conduct a complete test resulted in a wiring error to go undetected. Testing after the system was placed in service identified that the system did not function as designed. Troubleshooting identified that Division 2 and 3 emergency diesel generators (EDG) pneumatic electric relays in the new control panel were cross-wired to Division 3 and 2 EDG fan relays, respectively, in the control box. As part of their corrective actions, the licensee re-labeled the wires correctly in the CO2 panels and landed them on their appropriate terminals. The licensee entered this issue into their corrective action

program as CR 09 60866. The licensee's immediate corrective actions included placing the system in lockout and notifying all fire team personnel of the manual actions required to initiate CO2 flow into the emergency diesel generator rooms.

The finding was determined to be more than minor because, if left uncorrected, the inability of the EDG automatic fire suppression system to perform its function would become a more significant safety concern. Specifically, a fire in the Division 2 EDG room would not have been protected by adequate automatic fire suppression and it would render the Division 3 EDG inoperable. Similarly, a fire in the Division 3 EDG room would not have been protected by adequate automatic fire suppression and it would render the Division 2 EDG inoperable. The inspectors concluded this finding was associated with the Mitigating Systems cornerstone. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 3b, the inspectors determined that the finding degraded the fire protection defense in depth strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was required. Using Part 1 of the Fire Protection SDP Phase 1 Worksheet in Manual Chapter 0609, Significance Determination Process, the performance issue was determined to be in the fixed fire protection systems category based on the fixed fire suppression systems being degraded. This finding did not screen as very low safety significance (Green) in the Phase 1 analysis and a Phase 2 analysis under IMC 0609 Appendix F was required.

A regional senior reactor analyst evaluated this finding and assumed the fire frequency to be 3.0E-2 for the EDG rooms based on the licensee's IPEEE (Individual Plant Examination – External Events). Considering the fire frequency and remaining mitigating capability in the event of a plant transient, the senior reactor analyst determined that the risk associated with this finding was less than 1.0E-06. Therefore, this finding was determined to be best characterized as very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance, decision making, per IMC 0609 H.1(b), because the licensee's decisions did not demonstrate that nuclear safety was an overriding priority. Specifically, the licensee chose to minimize system unavailability time over performing a full and complete post-maintenance test on a newly installed EDG CO2 control system, a test that would have identified the wiring error.

Inspection Report# : 2009004 *(pdf)*

Significance: G Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
MMAINTENANCE ERRORS CAUSE LOSS OF DIVISION 1 ECCS ELECTRICAL POWER
A finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1 was self-revealed when the licensee failed to follow Nuclear Operating Procedure (NOP)-WM-3001; Work Management PM Processes. Specifically, step 4.5.5 of NOP-WM-3001 states, "If a General Nuclear Preventative Maintenance (GNPM) Order cannot be completed as planned due to ... replacement of a failed or degraded component, then the MWC Supervisor shall take appropriate actions in accordance with the flow diagram in Attachment 6 ..." During the performance of work order 200297036, for safety related 480-V breaker EF1A03, the supervisor directed a 4-point switch be replaced as part of the work order; however, no evaluation of the change in scope was completed and a CR was not written as required by Attachment 6 of NOP-WM-3001. The failure to evaluate the replacement lead to the loss of power to a number of safety related components. The licensee entered this item into their corrective action program as CR 09-63681. The licensee's immediate action included entry into the appropriate technical specifications, restoration of the lost electrical power bus and restoration of emergency core cooling systems which were made inoperable as a result of the power loss.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of human performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the inadequate work planning caused a loss of electrical power to bus EF-1-A, the safety-related 480 V power supply to Division 1 components placing the plant in an orange probabilistic safety analysis risk condition. The inspectors determined 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 2, the inspectors determined that core decay heat removal was degraded. Using Table 4a, "Characterization Worksheet for IE, MS, and BI Cornerstones," the inspectors assessed the finding as having very low

safety significance (Green) because no loss of safety system function occurred and no loss of function of a single train occurred for greater than its TS-allowed outage time. This finding has a cross-cutting aspect in the area of human performance, work control per IMC 0609 H.3(b) because the licensee did not plan and coordinate work activities consistent with nuclear safety. Specifically, licensee personnel failed to plan and coordinate the replacement of an auxiliary switch in breaker EF1A03 thereby not incorporating the impact of the changes to the work scope or activity on the plant and human performance.

Inspection Report# : 2009004 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 30, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Adequately Establish the Radiological Conditions In A Locked High Radiation Area to Allow Workers to Be Properly Briefed Prior to Entry.
A finding of very low safety significance and an associated Non-Cited Violation (NCV) of Technical Specification 5.7.1 was self-revealed following worker entry into the fuel pool cooling and cleanup (FPCC) heat exchanger room. At the time, the FPCC heat exchanger room was being controlled as a locked high radiation area (HRA). The licensee failed to adequately determine radiological dose rates in the room to ensure workers were briefed accurately on the radiological conditions prior to entry. On March 12, 2010, workers involved in tag-out activities in the room, encountered greater than expected dose rates. After completion of a tag-out activity in the FPCC heat exchanger room, the licensee identified that the electronic dosimeter (ED) worn by one of the workers had a dose rate of 550 mrem/hour and had alarmed. The workers were briefed to expect dose rates no greater than 150 mrem/hour based on the radiation survey used to support the briefing. The radiological information conveyed to the workers through a briefing by the radiation protection (RP) staff was inadequate because it was based on an incomplete survey. As part of the licensee's corrective actions, lessons learned were shared with the RP staff to address survey adequacy and for enhanced communications with workers during pre-job briefings.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue. The workers were not made aware of the radiological conditions before entry into the room. Therefore, as provided in Example 6 (h), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker entry into areas without knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the problem was not an as-low-as-reasonably-achievable (ALARA) planning issue, there was no overexposure, nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross cutting component in the human performance area for inadequate work control (H.3.(a)) in that, work activities were not adequately planned by incorporating job site radiological conditions. Specifically, the licensee job briefing did not utilize complete and accurate survey maps for the areas being entered into by the workers assigned to conduct tasks in the FPCC heat exchanger room. (Section 2RS1.2)
Inspection Report# : 2010003 *(pdf)*

Significance: G Jun 30, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure To Work In High Radiation Areas Within The Bounds Of The Radiological Briefing Resulting In Entry Into Areas Without Knowledge Of The Radiological Conditions. (Section 2RS1.3)
A finding of very low safety significance and an associated NCV of Technical Specification 5.7.1 was self-revealed after workers entered into high radiation areas (HRAs) on March 28, 2010. On two occasions, workers entered HRAs without knowledge of the radiological (dose rate) conditions of the areas entered. As a result, the electronic dosimeters (EDs) worn by the workers alarmed on high dose rate. The involved individuals were authorized to work in specified locations within the HRAs and were informed of the radiological conditions by the radiation protection (RP) staff for those specific areas. However, the workers took actions inconsistent with the briefings because they moved to other locations without authorization from RP and without knowledge of the radiological conditions of the area they entered. The individuals were briefed to expect dose rates of approximately 100 mrem/hour but traversed into other locations within the HRA with dose rates three to six times greater than those briefed. As corrective actions, the licensee is developing means to improve its pre-job briefings and contemplating other approaches to ensure workers do not work beyond the scope of the pre-job brief.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue. In both instances the workers took unauthorized actions and entered into other HRAs unaware of the elevated radiological conditions in those areas. Therefore, as provided in Example 6(h), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker entry into areas without knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because the problem was not an ALARA planning issue, there were no overexposures, nor substantial potential for overexposures, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of the incidents each involved cross-cutting components in the human performance area for inadequate work practices (H.4.(b)). Specifically, personnel work practices did not support human performance because the licensee did not effectively communicate expectations regarding procedural compliance and personnel failed to follow procedures. (Section 2RS1.3)
Inspection Report# : 2010003 *(pdf)*

Significance: G Jun 30, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate ALARA Planning And Radiological Controls That Did Not Prevent Unplanned, Unintended Dose For Several Work Activities In Refuel Outage 12.
3The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 20.1101.b for inadequate ALARA planning and radiological controls. The inspectors determined that as a result of these inadequacies, the licensee's ALARA program did not prevent unplanned, unintended dose for several work activities during refuel outage 12 (RFO-12). As a result, the licensee failed to achieve occupational radiation exposures that were ALARA. The issue was entered into the licensee's CAP as CR 09-59216, and corrective actions were implemented to address the outage planning and work execution issues.

The inspectors identified Example 6(i) of IMC 0612, Appendix E, as similar to the performance issue. Therefore, as provided in Example 6(i), the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, worker exposures were not maintained ALARA. The inspectors concluded that the finding did not result in overexposures, a substantial potential for overexposures, or a compromised ability to assess dose. The inspectors determined that the finding involved ALARA planning and work controls. Since the licensee's 3-year rolling collective dose average was less than 240 person-rem per unit, at the time the performance deficiency occurred, the inspectors determined that the SDP assessment for this finding was of very low safety significance. The inspectors also concluded that the finding was associated with a cross-cutting aspect in the area of human performance in the area of work controls (H.3.(a)), in that, the licensee did not appropriately plan work

activities by incorporating radiological safety. (Section 2RS2.2)
Inspection Report# : 2010003 *(pdf)*

Significance: G Jun 30, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure To Evaluate The Need For Radiological Engineering Measures To Control Contamination During Installation Of A Cover Over The Drywell Head.
4A finding of very low safety significance and an associated NCV of 10 CFR 20.1501 was self-revealed during an activity associated with the installation of a contamination control cover element (i.e., the parachute) over the drywell head. The inspectors concluded that the licensee failed to perform an evaluation to determine the need for process or other engineering controls as required by 10 CFR 20.1701 and 20.1702. On February 24, 2009, 15 individuals working on the refuel floor were contaminated and several received small intakes of radioactive material during installation of the cover. Low levels of airborne radioactivity were created and contamination was spread over large areas of the refuel floor. The individuals involved in the work activity were not provided with instruction for the installation and were unfamiliar with the task. Also, neither an ALARA Plan nor radiation work permit (RWP) specified if or how the drywell head was to be covered because the work package lacked sufficient detail. As corrective actions, the licensee removed the parachute cover and applied a fixative to the drywell head to minimize further spread of contamination. An experienced supervisor was assigned to the refuel floor to better oversee work activities.

The inspectors did not identify any examples in IMC 0612, Appendix E, similar to the performance issue. However, the inspectors determined that the finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to evaluate the methods used to install the parachute cover and use engineering controls resulted in personal contaminations and intakes to several workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The work package was incomplete and failed to prescribe if and how the cover was to be installed over the drywell head to ensure a successful outcome. Consequently, the cause of the problem involved a cross-cutting component in the human performance area for resources (H.2.(c)), in that, the licensee did not ensure that personnel, equipment and procedures including the work package were available and adequate. (Section 2RS3.1).
Inspection Report# : 2010003 *(pdf)*

Significance: G Jun 30, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure To Effectively Use The Intended Radiological Engineering Controls During Cavity Drain-Down In Preparation For Its Decontamination.
5A finding of very low safety significance and an associated NCV of Technical Specification 5.4.1 was self-revealed during reactor cavity drain down. On March 14, 2009, an airborne radioactivity condition (about 3.3 DAC (derived air concentration)) was generated on the refuel floor when the cavity water level was lowered to support decontamination activities. The inspectors concluded that the licensee failed to effectively implement intended radiological engineering controls in accordance with the ALARA Plan, which caused the event. Due to a communication problem, cavity drain-down commenced before the decontamination crew already positioned on the refuel floor was ready to support the activity. Moreover, the drain down proceeded at a rate faster than expected by the work crew. The work plan called for the cavity walls to be misted with water as the drain-down took place. Five workers had small (low dose) unplanned intakes. Corrective actions focused on the communications problem and better controlling the rate of drain-down through a procedural modification.

The inspectors did not identify any examples in IMC 0612, Appendix E, similar to the performance issue. However, the inspectors determined that the finding was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to effectively

implement intended engineering controls during cavity drain-down caused several unplanned worker intakes and placed workers at increased radiological risk. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The cause of the problem involved a cross-cutting component in the human performance area for inadequate work control (H.3.(b)), in that, the licensee did not appropriately coordinate work activities by incorporating actions to address the need for work groups to communicate and coordinate with each other during activities in which interdepartmental coordination was necessary to assure human performance. (Section 2RS3.1).
Inspection Report# : 2010003 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
UNPOSTED HIGH RADIATION AREA AT THE TIP MACHINES
The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification 5.7.1 for the failure to conspicuously post a high radiation area on the 599' elevation of the containment building. Corrective actions included instituting high radiation area controls when the traverse in-core probe system is operated. The licensee entered the issue into its corrective action program as Condition Reports 09-59344 and 09-67987.
The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for as-low-as-is-reasonably-achievable (ALARA) planning, in that, not conspicuously posting high radiation areas may result in unnecessary and unplanned radiation exposures to workers. 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 primary cause of this finding was related to the cross-cutting area of human performance in work practices, per IMC 0305 H.4.a., in that, personnel work practices and human performance error reduction techniques were not used commensurate with the risk of the assigned task.

Inspection Report# : 2009005 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: FIN Finding
EXCESS DOSE INCURRED FOR THE ALTERNATE DECAY HEAT REMOVAL PROJECT
The inspectors identified a finding of very low safety significance for inadequate job planning and ineffective work controls which adversely impacted the licensee's ability to minimize dose for the alternate decay heat removal (ADHR) project during Refuel Outage 12. Specifically, controls were not effectively implemented to reduce ambient radiation levels, and minimize in-field work hours for craft personnel. The issue resulted in an actual dose outcome that was not consistent with the planned, intended dose for work associated with modifications to the ADHR. Corrective actions were implemented to address the organization and programmatic deficiencies in managing the installation of major plant modifications.
The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for ALARA planning, in that, ineffective ALARA planning and work control deficiencies contributed to an actual increase in worker doses in excess of five person-rem and exceeded the licensee's initial intended dose estimates by more than 50 percent. The finding did not involve: (1) an overexposure; (2) a substantial potential for an overexposure; or (3) an impaired ability to assess dose. While the finding involved ALARA planning and controls, the 3 year rolling average dose for the Perry Plant was less than the SDP threshold of 240-person-rem for boiling water reactors at the time the performance deficiency occurred. Consequently, the inspectors concluded through the SDP assessment that this is a finding of very low safety-significance. The finding was determined to be associated with a cross-cutting aspect in the area of human performance in work controls, per IMC 0305 H.3.a., in that, the licensee did not appropriately plan work activities by incorporating radiological safety.

Inspection Report# : 2009005 *(pdf)*

Public Radiation Safety

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 : September 02, 2010