Duane Arnold
4Q/2009 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW SURVEILLANCE TEST PROCEDURE RESULTS IN AUTOMATIC REACTOR SCRAM.
A finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed when Instrumentation and Controls (I&C) Technicians failed to fully shut an instrument isolation valve for a Reactor Vessel Pressure Transmitter. During subsequent steps of the Surveillance Test Procedure (STP), a pressure surge occurred on the shared reference leg and RPS channels A2 and B2 initiated an automatic reactor scram due to a sensed low reactor water level. The inspectors determined that the failure to complete the steps of STP 3.3.3.2 09B was contrary to the requirements contained in 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and was therefore a performance deficiency. The licensee entered this event into their Corrective Action Program as CAP 070334, and implemented corrective actions including enhancement of all STPs that test instruments on shared reference legs. These enhancements include requiring pre pressurization of instrument test lines during the surveillance testing and also revising STP 3.3.3.2-09B to identify the manipulation of shared reference leg isolation valves as critical steps. Additionally, the licensee has implemented corrective actions to improve the Apprenticeship Training Program for I&C Technicians.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of Human Performance and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the failure to fully isolate the Reactor Vessel Pressure Transmitter from the Reactor Vessel Level Instruments installed on the shared reference leg as required by the STP resulted in an unplanned reactor scram. The inspectors determined the finding was of very low safety significance (Green) because the finding only resulted in a reactor scram and did not contribute to the likelihood that mitigation equipment or functions would not be available. This finding has a cross-cutting aspect in the area of Human Performance, Work Practices, because the licensee did not use human error prevention techniques commensurate with the risk of the assigned task and personnel proceeded in the face of uncertainty. Specifically, an I&C technician failed to complete a step of STP 3.3.3.2-09B when the technician encountered difficulty in shutting the instrument isolation valve for a Reactor Vessel Pressure Transmitter. After several attempts to shut the isolation valve followed by a discussion with a peer, the I&C technician then proceeded in the face of uncertainty and caused a reactor scram.

Inspection Report# : 2009005 *(pdf)*

Significance: G Jun 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADEQUATE SURVEILLANCE TEST PROCEDURE REVISION RESULTS IN A PLANT SCRAM.
A finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when Instrument and Controls (I&C) Technicians lifted a lead on a reactor water level recorder resulting in the indicated reactor water level failing low and an actual increase in reactor water level. This plant transient resulted in operators inserting a manual reactor scram to mitigate the transient condition. The inspectors determined that the failure of I&C Technicians and Procedure Writers to include adequate procedural guidance in the Surveillance Test Procedure (STP) was contrary to the requirements of 10 CFR 50, Appendix B, Criterion V, and was therefore a performance deficiency. The licensee entered this into their corrective action program as CAP 066292. The reactor operators completed the required actions for a reactor scram and placed the plant in a stable condition. The STP was revised to include appropriate guidance to remove the reactor level

recorder from service, and an extent of condition review was performed for other Refueling Outage 21 modifications that could result in plant trips or downpowers if similar conditions existed.

The performance deficiency was determined to be more than minor because the issue 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 and challenge critical safety functions during power operations. Specifically, I&C Technicians and Procedure Writers made an inadequate change to the STP that resulted in a plant transient that led to a reactor scram. The inspectors determined the finding was of very low safety significance (Green) because the finding only resulted in a reactor scram and did not contribute to the likelihood that mitigation equipment or functions would not be available. This finding has a cross-cutting aspect in the area of Human Performance, Resources, because the licensee did not ensure procedures were adequate to assure nuclear safety. Specifically, the inadequate change to the Reactor Water Level and Pressure Instrument Calibration STP resulted in an inaccurate procedure that caused a plant transient resulting in a reactor scram.
Inspection Report# : 2009003 *(pdf)*

Significance: G Mar 31, 2009
Identified By: Self-Revealing
Item Type: FIN Finding
COOLING TOWER RISER BREAK LEADS TO MANUAL REACTOR SCRAM.
A finding of very low safety significance was self revealed when the Operators exceeded the operational limit of the cooling tower riser by failing to secure one of the two running circulating water pumps prior to securing flow to the 'A' cooling tower. The inspectors determined that the Operators exceeding the operational limit of the 'B' cooling tower west riser was contrary to the guidance for safe operation of plant equipment contained in Administrative Control Procedure (ACP) 110.1, "Conduct of Operations," and therefore was a performance deficiency. No violation of regulatory requirements occurred. The licensee entered this issue into their corrective action program (CAP) as CAP 063426. The 'B' cooling tower riser was repaired, structural support was added to all four cooling tower risers, and operating procedures were revised to preclude operators from operating two circulating water pumps with only one cooling tower in operation.

The finding was determined to be more than minor because the finding was associated with the reactor safety cornerstone attribute of procedure quality and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown. Specifically, operating the plant in an inappropriate configuration resulted in the loss of the normal plant heat sink, which required the operators to manually scram the reactor and rely on safety related equipment to cool the plant down. The inspectors determined the finding was of very low safety significance (Green) because the finding only resulted in a reactor scram and did not contribute to the likelihood that mitigation equipment or functions would not be available. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action, because the licensee did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner. Specifically, maintenance and operations personnel failed to adequately address a known deficiency with a plugged pressure transmitter, which resulted in the control room allowing throttling of the 'A' cooling tower riser valves until they were fully shut, thus exceeding the operational limit of the cooling tower.
Inspection Report# : 2009002 *(pdf)*

Mitigating Systems

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
UNQUALIFIED SAFETY RELATED CABLES USED IN A SUBMERGED ENVIRONMENT.
A finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified by the NRC for the failure to maintain 'A' Emergency Service Water (ESW) safety related cables in an environment for which they were designed. The inspectors determined that the failure to maintain safety related cables for the 'A' ESW system in an environment for which they were designed was contrary to the

requirements contained in 10 CFR 50, Appendix B, Criterion III, “Design Control,” and was therefore a performance deficiency. The licensee entered this event into their Corrective Action Program as CAP 070938, and implemented corrective actions including creating inspection tasks to periodically inspect 21 manholes that are susceptible to water intrusion, as well as evaluating the feasibility of installing sump pumps in those manholes.

The finding was determined to be more than minor because the finding 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, the licensee failed to maintain ‘A’ ESW safety related cables in an environment for which they were designed when the cables were allowed to be submerged in water inside manhole 1MH109. The finding was of very low safety significance (Green) because it was a qualification deficiency that did not result in a loss of operability. This finding has a cross-cutting aspect in the area of problem identification and resolution, corrective action program, because the licensee did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner. Specifically, the licensee failed to implement timely corrective actions to address an adverse trend of water in manhole 1MH109 which led to ‘A’ ESW safety related cables being submerged in water.

Inspection Report# : 2009005 *(pdf)*

Significance: G Dec 15, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure To Implement Licensee Procedure PI-AA-205, “Condition Evaluation and Corrective Action” (02.03.f)
A finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” was identified by the inspector for the licensee’s failure to implement the requirements of PI-AA-205, “Condition Evaluation and Corrective Action,” which states in part that the “Closure of Corrective Actions is not permitted until corrective actions are completed…” Specifically, the licensee failed to complete the corrective actions as written, in that the B EDG overspeed micro switch was not verified to be installed in accordance with the licensee’s setup procedure, prior to closing CA 51294. The licensee reopened CA 51294 to complete its original assignment and entered the deficiency into their corrective action program as CAP 71693. Additionally, the licensee planned to perform an extent of condition and extent of cause evaluation to address the deficiency.

The inspector determined that the issue was a performance deficiency because it was the result of the failure to meet a requirement, and the cause was reasonably within the licensee’s ability to foresee and correct, and should have been prevented. The finding was determined to be more than minor because if left uncorrected, could become a more significant safety concern. Specifically, the assignments in CA 51294 were designated as corrective actions to prevent recurrence (CATPRs) of a risk-significant issue associated with the ‘B’ EDG output breaker tripping under full load. Using IMC 0609, Appendix A, the inspector determined the finding was of very low safety significance (Green) because the finding did not result in a loss of operability or functionality. This finding has a cross-cutting aspect in the area of Problem Identification, Corrective Action Program, because the licensee failed to thoroughly evaluate problems such that the resolutions address causes. Specifically, the licensee’s procedure requires that a senior manager evaluate and ensure all corrective actions with significance level ‘A’ are complete prior to closure. However, the Maintenance Manager, assigned to CA 51294, did not thoroughly evaluate the corrective action and inappropriately closed CA 51294 before verifying the assigned actions were complete (P.1(c)) (Section 02.03.f).
Inspection Report# : 2009013 *(pdf)*

Significance: G Oct 06, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Address an Adverse Trend in Performing Required Fire Watches
The inspectors identified a finding of very low safety significance and associated Non-Cited Violation (NCV) of Technical Specifications, Paragraph 5.4.1.d, for the failure to identify an adverse trend in performing fire watches required as compensatory measures to address identified fire protection impairments; including potential multiple spurious operations vulnerabilities and an unanalyzed condition in Appendix R analysis. Specifically, the licensee failed to implement requirements in Procedure PI-AA-01 that would have ensured the proper implementation of the Fire Protection Program in accordance with ACP 1412.4. The improper implementation of Procedure PI-AA-01

resulted in numerous instances in which the licensee failed to issue and implement Fire Watch Surveillances as required by ACP 1412.4, Section 3.1, Paragraph (7)(a). Upon discovery, the licensee initiated an Apparent Cause Evaluation after entering this finding into their corrective action program as CAP 069822.

The finding was determined to be more than minor because the finding was associated with the mitigating systems cornerstone attribute of protection against external factors (fire) and affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to implement fire protection procedure requirements could have complicated plant safe shutdown in the event of a fire. The issue was of very low safety significance based on the relatively short duration involved and that only one defense-in-depth element (barriers) was affected by the impairments for which the fire watches had been established. This violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy.

Inspection Report# : 2009006 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM AN IMMEDIATE OPERABILITY DETERMINATION FOR THE 'B' STANDBY DIESEL GENERATOR.
A finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified by the inspectors for a failure of the Shift Manager to perform an Immediate Operability Determination (IOD) of the ‘B’ Standby Diesel Generator (SBDG) after being notified by engineers of a concern with the seismic adequacy of the ‘B’ SBDG normal air start system. The Shift Manager’s failure to follow procedure EN-AA-203-1001, “Operability Determinations/Functionality Assessments,” and Administrative Control Procedure (ACP) 110.1, “Conduct of Operations,” was considered a performance deficiency. The licensee entered this issue into the Corrective Action Program (CAP) as item CAP 070061, and isolated the ‘B’ SBDG normal air start system from the emergency air start system. A detailed seismic analysis was performed on the ‘B’ SBDG normal air start system to fully evaluate operability of the system during the design basis earthquake.

The performance deficiency was determined to be more than minor because if left uncorrected, the failure to adequately implement the operability procedures could result in safety-related components being incorrectly declared operable rather than inoperable or operable but non-conforming (a more significant safety concern). The inspectors evaluated this finding using the SDP and determined the finding was of very low safety significance (Green) because it did not represent an actual loss of safety function of a single train for longer than its Technical Specification (TS) allowed outage time. The inspectors also determined that this finding has a cross-cutting aspect in the area of Human Performance, Decision-Making, because the licensee failed to make a safety significant or risk-significant decision using a systematic process, especially when faced with uncertain or unexpected plant conditions, and thereby demonstrate that nuclear safety is an overriding priority. Specifically, the licensee did not make and document an IOD for the ‘B’ SBDG once an adverse condition affecting a SBDG support system was identified.

Inspection Report# : 2009004 *(pdf)*

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY IDENTIFY AND CORRECTA NONCONFORMING CONDITION ON A HPCI SUPPRESSION POOL SUCTION LINE SEISMIC RESTRAINT.
A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified by the inspectors for a failure of the licensee to promptly identify and correct a condition adverse to quality (CAQ) associated with a seismic restraint on the High Pressure Coolant Injection (HPCI) Suppression Pool suction line. The licensee’s failure to promptly identify and correct the nonconforming condition during engineering walkdowns of the HPCI system was considered a performance deficiency. The licensee entered this issue into the Corrective Action Program (CAP) as items CAP 066713 and CAP 066750, declared the HPCI system inoperable, and isolated the HPCI Suppression Pool suction line. The seismic restraint was the repaired to return it to a fully operable condition.

The performance deficiency was determined to be more than minor because the issue was associated with the Mitigating Systems Cornerstone attribute for protection against external events and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesired consequences. The inspectors evaluated this finding using the SDP and determined the finding was of very low safety significance (Green) because this finding was a design deficiency that did not result in a loss of operability of the HPCI System. The inspectors also determined that this finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because the licensee did not promptly identify an adverse condition in the CAP in a timely manner commensurate with its safety significance.
Inspection Report# : 2009003 *(pdf)*

Significance: G May 22, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY IDENTIFY AND EVALUATE THE DEGRADED CONDITION ASSOCIATED WITH THE 'D' RWS PUMP MOUNTING BASE BOLTED CONNECTORS.
A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified by the inspectors for a failure of the licensee to promptly identify and correct a condition adverse to quality (CAQ) associated with the ‘D’ river water supply (RWS) pump mounting base bolted connectors. The licensee’s failure to evaluate the operability of the ‘D’ RWS pump due to the degraded bolting was considered a performance deficiency. By not examining the thread degradation documented on the overtorqued ‘D’ RWS pump mounting base bolted connectors, the licensee was unable to adequately identify the as-left condition of the stud threads, evaluate the impact that condition had on the seismic qualification of the pump, and implement appropriate corrective actions to resolve the degraded condition. The failure to promptly identify and correct a CAQ associated with the safety-related ‘D’ RWS pump was a violation of NRC requirements specified in 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action.” The licensee entered this issue into the Corrective Action Program (CAP Item 067412), examined the pump mounting connectors, and initiated a prompt operability determination to evaluate the seismic qualification. Based on this evaluation, the ‘D’ RWS pump was declared Operable but degraded.

The performance deficiency was determined to be more than minor because the issue 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 inspectors evaluated this finding using the Significance Determination Process (SDP) and determined the finding was of very low safety significance (Green) because this finding was a design or qualification deficiency that did not result in a loss of operability of the safety component. The inspectors also determined that this finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because the licensee did not promptly and completely identify an adverse condition in the CAP in a timely manner commensurate with its safety significance (P.1.a).

Inspection Report# : 2009007 *(pdf)*

Significance: W Apr 17, 2009
Identified By: NRC
Item Type: VIO Violation
FAILURE TO PROMPTLY IDENTIFY AND CORRECT A SIGNIFICANT CONDITION AVERSE TO QUALITY ASSOCIATED WITH THE 'B' EDG.
The inspectors identified a finding and associated apparent violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” associated with the licensee’s failure to identify and correct the cause of ‘B’ EDG overspeed trip alarms, a condition documented in the licensee’s corrective action program as being adverse to quality (CAP 055746), in February 2008. Following corrective actions in March 2008, to replace a faulty annunciator card, the spurious overspeed trip alarms began recurring in June 2008. By not performing additional evaluation to identify and correct the cause for the recurring spurious overspeed trip alarms, the conditions which allowed the overspeed switch degradation continued, which eventually resulted in the failure of the ‘B’ EDG during the monthly surveillance test conducted in November 2008. The licensee implemented corrective actions that included replacing the ‘B’ EDG overspeed microswitch, developing written instructions for installation and setup of the microswitch, inspecting the

'A' EDG overspeed switch for extent of condition, stopping the practice of resetting the EDG overspeed latch once per shift, repair of the overspeed electrical conduit support bracket, and revisions to the station's administrative control procedure for troubleshooting to require more rigorous troubleshooting activities for Priority 2 items.

The finding was determined to be more than minor because the reliability of the 'B' EDG is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding associated with this apparent violation was assessed using a Phase 3 analysis in accordance with NRC Inspection Manual Chapter 0609 Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," and is preliminarily determined to have low to moderate safety significance (White).

The cause of this apparent violation was related to the Corrective Action Program Component for the cross-cutting area of Problem Identification and Resolution, because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of conditions [P.1(c)]. Specifically, the licensee failed to thoroughly evaluate and identify the cause of recurring 'B' EDG overspeed trip alarms. The recurring alarms started in February 2008, and periodically continued until the 'B' EDG output breaker tripped during a surveillance test on November 2, 2008.

Inspection Report# : 2009009 *(pdf)*
Inspection Report# : 2009011 *(pdf)*
Inspection Report# : 2009013 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM REQUIRED ACTIONS FOR EXISTING LCO CONDITIONS DURING IN-VESSEL FUEL MOVEMENTS.
A finding of very low safety significance and associated non-cited violation of Technical Specifications (TSs) was identified by the inspectors for the operators failing to perform required actions for existing limiting condition for operation (LCO) conditions, involving TS equipment declared inoperable, during in-vessel fuel movements. The inspectors determined that the failure to perform TS LCO required actions during in-vessel fuel movement was contrary to Refueling Operations TS required actions and therefore was a performance deficiency. The licensee entered this issue into their corrective action program as CAP 064489. The core alterations were suspended to comply with the TSs until the issue was resolved. Actions were taken to ensure that the control rods with the inoperable rod position indicators were fully inserted, and to electrically disarm the control rod drives. Once the required actions were completed, the fuel shuffle was recommenced.

The performance deficiency was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of human performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). Specifically, when changes in plant conditions affect previously performed required actions for equipment declared inoperable, the failure to perform the TS LCO required actions for the new plant conditions, could lead to a more significant safety concern by unknowingly exceeding allowed outage times established for specific LCOs. This human error could, in turn, challenge mitigating systems' availability, reliability and capability to respond to initiating events. The inspectors determined that this finding only degraded the reactivity control function of the mitigating systems cornerstone, and only affected the safety of a reactor during refueling operations after the entry conditions had been met and shutdown cooling had been initiated. Using IMC 0609, Appendix G, "Shutdown Operations SDP," and Checklist 7, "BWR Refueling Operation with RCS Level > 23'," contained in Attachment 1, the inspectors determined that the finding did not require a quantitative assessment. Using Figure 1, this finding screened as very low safety significance (Green). The inspectors also determined that this finding has a cross-cutting aspect in the area of Human Performance, Decision Making, because the licensee did not adopt a requirement to demonstrate that the proposed action was safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. Specifically, the requirements of RFP-403 and IPOI-8 to verify readiness to commence in-vessel fuel movements did not adequately provide for a review of inoperable TS equipment completed LCO actions to ensure core alteration TSs for reactivity control were met during the fuel movements.

Inspection Report# : 2009002 *(pdf)*

Barrier Integrity

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CONSIDER DESIGN BASIS LOAD IN EVALUATION FOR CONTINUED OPERATION.
A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to verify the adequacy of the methodology and design inputs used to support licensee decisions to accept non conforming systems, structures, and components for continued operation. The licensee entered this issue into its CAP and was able to demonstrate the Primary Containment system and piping subsystems attached to Drywell penetrations to be operable during design basis accident conditions.

The finding was determined to be more than minor because the omission of a design basis load in engineering evaluations used to justify continued operation resulted in a condition where there was reasonable doubt regarding the operability of the Primary Containment system and piping subsystems attached to Drywell penetrations during accident conditions. 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. This finding did not have a cross-cutting aspect.

Inspection Report# : 2009002 *(pdf)*

Emergency Preparedness

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MAINTAIN EAL SCHEME FOR RIVER LOW LEVEL.
A finding of very low safety significance and associated NCV of the emergency planning standard 10 CFR 50.47(b)(4) was identified by the inspectors. The finding involved an inadequate threshold for river water level indentified in the emergency classification scheme. The classification scheme did not provide the threshold values related to specific instruments, parameters, and status indicators for river water low level and low water depth and did not address the effect of sand and silt accumulation on the River Water Supply (RWS) and Ultimate Heat Sink (UHS) systems. The thresholds for the Notification of Unusual Event and Alert were unusable for the condition of low river water level when the river bed elevation becomes greater than the low river water level threshold. The licensee entered the finding into their CAP (CAP 068505 and CE 007573).

The inspectors determined the licensee's failure to adjust the Emergency Action Level (EAL) threshold criteria for river water low level at the Unusual Event and Alert classification was a performance deficiency. Because the licensee did not recognize the challenge to the RWS and the UHS due to increasing river bed level in the EALs, the EAL thresholds were not adjusted to accommodate for sand accumulation and the river bed rising. The performance deficiency was more than minor since the Emergency Preparedness Cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in a radiological emergency was adversely affected, and the finding involved a risk-significant planning standard. The finding impacted the attribute of procedure quality (emergency planning standard, emergency classification, and action level scheme). The finding was assessed using the emergency preparedness SDP and was determined to be of very low safety significance (Green). The finding was similar to the example given of the 'emergency classification process would not declare any Alert or Notification of Unusual Event that should be declared', as in the case when the river bed elevation exceeds the river water low level threshold values. The inspectors also determined that this finding has a cross-cutting aspect in the area of Human Performance, Decision-Making, because the licensee did not use conservative assumptions and

validate the underlying assumption in the decision to not change the EAL scheme and assumed the technical specifications for the RWS and the UHS systems would address the EAL requirement.
Inspection Report# : 2009004 *(pdf)*

Occupational Radiation Safety

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION AND DIVING SURVEY REQUIREMENTS DURING WORK IN THE TORUS RESULTED IN UNNECESSARY RADIATION EXPOSURE.
An NRC-identified finding of very low safety significance and an associated Non Cited Violation (NCV) of Technical Specification 5.4.1(a) was identified for the failure to comply with the requirements of the "Diving Operation within Radiological Areas" procedure during torus underwater diving operations on February 17, 2009. Specifically, two divers entered the water in the torus bay no.7 to perform wall coating repairs. Dives were performed approximately 10 feet from the water surface. The diving was monitored by two tenders and two health physics (HP) technicians. The HP technicians provided continuous coverage and monitored activities through a Teleview system that continuously monitored the divers' electronic dosimetry (ED). At approximately 2.5 hours into the dive, the senior HP technician glanced at the Teleview monitor and discovered that an accumulated dose alarm condition had occurred several minutes earlier for a three-minute duration on one of the divers. This resulted in one diver receiving an accumulated dose of 133 millirem (mrem). Both divers were ordered out of the water and were subsequently surveyed and were found free of contamination.

The licensee failed to recognize the radiological impact of various operational activities on dive conditions, which introduced discrete radioactive particles (DRPs) into the torus water. Drain down of the reactor cavity and the torus spray header along with the storage of contaminated filters in the torus all contributed to the presence of DRPs. Although underwater radiation surveys were performed shiftly by the radiation protection (RP) staff, these surveys were limited to the immediate dive area. Surveys were not sufficiently comprehensive or timely, as required by the licensee's procedure, to ensure that changes in radiological conditions were identified to maintain diver dose as-low-as-reasonably-achievable. Sufficiently comprehensive surveys of the torus were last performed four-days prior to the February 17th incident. As a result, one of the torus divers encountered radiation levels greater than expected and received additional unanticipated dose. The licensee's corrective actions included counseling of the involved diving crew and conducting a stand-down with the dive crew to reinforce radiological requirements along with communication expectations such as notifying RP supervisors of any reported plant operations that may affect radiological conditions prior to the start of diving activities. The licensee had completed an extent of condition evaluation and formulated additional actions to prevent recurrence.

The finding was more than minor because it was associated with the program and process attribute of the Occupational Radiation Safety Cornerstone and affected adversely the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, access into underwater high radiation areas whose radiological conditions were unknown placed the divers at risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance because it was not an as-low-as-is-reasonably-achievable (ALARA) planning issue, there was no overexposure or substantial potential for an overexposure, and the licensee's ability to assess worker dose was not compromised. The finding involved a cross-cutting aspect in the area of human performance related to decision making, in that, the licensee did not use conservative assumptions in its decision making to ensure that the torus diving activity was radiologically safe. Specifically, the licensee did not perform underwater dose surveys that were sufficiently thorough to provide an accurate characterization of the radiological conditions.

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

Significance: N/A May 22, 2009
Identified By: NRC
Item Type: FIN Finding
PI&R Summary
Overall the corrective action program (CAP) program was adequate in that issues were identified at a low threshold, evaluated and corrected. Self-assessments and audits by Nuclear Oversight (NOS) were thorough and critical of the assessed areas. Operating experience was recognized as valuable, was appropriately evaluated, and was effectively communicated in daily plant meetings and pre-job briefings. Interviews with licensee staff and a review of the employee concerns program indicated that the licensee had a positive safety culture environment that encouraged identification of issues in the CAP.

However, the inspectors identified several areas of concern that prevented the CAP from being an effective tool for performance improvement. There were examples where licensee staff failed to demonstrate a challenging, questioning attitude during issue screening and evaluation, where identified program weaknesses or vulnerabilities were accepted without a strong desire for change, and where management expectations were not reinforced. For example:

• Ineffective trending has been a recurring issue since 2005, based on the results of NRC, industry and station assessments. However, fixing this problem does not appear to be a station priority. Although the pieces needed to have a successful program are largely in place, there does not appear to be a drive to actually implement the process.

• There were some examples of CAP issues that were inappropriately challenged either at the Initial Screening Team (IST), Management Review Committee (MRC) or both. The inspectors observed instances where IST and MRC members accepted issues without challenging the information given or considering the overall impact of the issue on the safety/risk function of the component or system.

• There was a tendency to perform myopic reviews focusing on the specific issue being evaluated and not on the underlying performance concern. Standards for performing cause evaluations were not being reinforced. There were several examples where the review of extent of condition, applicability of operating experience or the basis for the conclusion were either limited or not well documented. Although some of the issues were identified during the evaluation grading, there was no priority or impetus to change the incorrect behavior.
Inspection Report# : 2009007 *(pdf)*

Last modified : March 01, 2010