

Harris 1

4Q/2009 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Properly Install Spot Type Smoke Detectors

The inspectors identified a Green NCV of the Shearon Harris Nuclear Power Plant Operating License condition 2.F, Fire Protection Program, for failing to correctly install spot type smoke detectors between four and twelve inches down from the ceiling to the top of the detector as required by National Fire Protection Association (NFPA) 72E, Automatic Fire Detectors. Specifically, it was determined that eight spot type smoke detectors are installed approximately five feet below the ceiling in the plant's Computer Room. The licensee took immediate corrective action by initiating compensatory fire watches. The licensee entered this into the corrective action program (CAP) as Action Request (AR) #363555.

The finding was determined to be more than minor because it affected the Mitigating Systems Cornerstone objective of availability, reliability, and capability of the fixed fire detection system and was associated with the protection against external factors (fire) attribute. Specifically, this failure could affect the timeliness of response to a fire due to the delayed detection of smoke and resulting alarm, allowing the fire to grow larger prior to the fire brigade taking action. Using MC 0609, Appendix F, it was determined that this issue was in the category of fixed fire protection systems which had moderate degradation due to the fact that the system would function, although delayed. Further, it was determined that this issue was a Fire Damage State Zero (FDS0). As such, only the fire ignition source and initiating fuels are damaged by the fire. FDS0 is not analyzed in the fire protection SDP as a risk contributor and is therefore of very low safety significance (Green). Due to the fact that this condition has been present since initial installation during plant construction, it was determined that this was not indicative of current licensee performance and therefore no cross-cutting aspect was identified.

Inspection Report# : [2009005](#) (*pdf*)

Significance:  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain an Adequate Quality Assurance Training Program

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion II, "Quality Assurance Program," for the licensee's failure to maintain an adequate training program for personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained. The licensee's training program was inadequate because the means to maintain QC inspector proficiency and the QC continuing training program failed to ensure that QC inspectors employed appropriate inspection techniques. This failure was manifested in three separate quality control electrical verification errors during plant modifications made in April and May 2009. The licensee entered this issue into their CAP as action request (AR) #341355. As corrective action, the licensee correctly reinstalled and verified the modifications to be in accordance with plant design. Additionally, the licensee committed to revise and/or create procedures to institutionalize QC training in an initial training and certification program, as well as a continuing training program.

This violation was more than minor because if left uncorrected the performance deficiency would have the potential to lead to a more significant safety concern. This finding is associated with the Design Control attribute of the Mitigating

Systems cornerstone, and it 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). Using Attachment 4 of IMC 0609, the significance of this finding was determined to be of very low safety significance (Green) because it was a design or qualification deficiency confirmed not to result in loss of operability or functionality, did not represent a loss of system safety function, did not represent actual loss of safety function of a single train for longer than its Technical Specification (TS) Allowed Outage Time, did not represent an actual loss of safety function of one or more non-TS Trains of equipment designated as risk-significant, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect of Supervisory and Management Oversight, as described in the Work Practices component of the Human Performance cross-cutting area because the lack of oversight and engagement by management resulted in the inadequate QC training program (H.4(c)).
Inspection Report# : [2009004](#) (pdf)

Barrier Integrity

Significance:  Oct 02, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Preclude Repetition of a Significant Condition Adverse to Quality for Both Containment Spray Additive System Eductors Being Outside of the Technical Specification Flow Band

The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to identify the cause and take corrective actions to preclude repetition of a significant condition adverse to quality for both containment spray additive system eductors being outside of the technical specification flow band. Specifically, between July 2009 and the present, the violation occurred when Eductor A was found three times and Eductor B was found once outside of the Technical Specification 3.6.2.2 flow band. This issue was previously identified as a significant condition adverse to quality in January 2008, but the corrective actions taken failed to preclude repetition. The licensee entered this issue into the corrective action program as nuclear condition report 356873. The licensee took immediate corrective actions to throttle the eductor flow to within the band, and is developing corrective actions to preclude repetition.

The finding is more than minor because it is associated with the design control attribute of the Barrier Integrity Cornerstone and affects the cornerstone objective of providing reasonable assurance that physical design barriers, such as the iodine scrubbing capability of the containment spray additive system eductors, will protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because it did not represent a degradation of the radiological barrier function provided for the control room, auxiliary building, or spent fuel pool; the finding did not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere; the finding did not represent an actual open pathway in the physical integrity of reactor containment; and the finding did not involve an actual reduction in function of the hydrogen igniters in the reactor containment. The finding had a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee did not thoroughly evaluate problems such that the resolutions address causes and extent of conditions, as necessary, and for significant problems, conduct effectiveness reviews of corrective actions to ensure that the problems are resolved (P.1(c))

Inspection Report# : [2009006](#) (pdf)

Significance:  Oct 02, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Correct a Condition Adverse to Quality Involving a Main Steam Isolation Valve Degrading Trend Before Valve Failure

The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to correct a condition adverse to quality in a timely manner. Specifically, between May 27, 1997 and September 29, 2007, Main Steam Isolation Valve 82 close stroke time exhibited a condition adverse to quality for a

trend degrading towards the technical specification limit, without sufficient corrective actions to prevent failure. This resulted in Main Steam Isolation Valve 82 exceeding the five-second stroke time limit required in Technical Specification 3.7.1.5. The licensee entered this issue into the corrective action program as nuclear condition report 358464.

This finding is more than minor because it is associated with the containment barrier performance attribute of the Barrier Integrity Cornerstone and affects the cornerstone objective of providing reasonable assurance that physical design barriers, such as the main steam isolation valve radiological release barrier required for a steam generator tube rupture, protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because it did not represent a degradation of the radiological barrier function provided for the control room, auxiliary building, or spent fuel pool; the finding did not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere; the finding did not represent an actual open pathway in the physical integrity of reactor containment; and the finding did not involve an actual reduction in function of the hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance associated with decisionmaking because the licensee did not use conservative assumptions so that safety-significant decisions were verified to validate underlying assumptions and identify unintended consequences (H.1.(b))
Inspection Report# : [2009006](#) (*pdf*)

Significance:  Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Provide Procedures to Control and Adjust the Manipulator Crane Gear Limit Setpoints

A self-revealing Green NCV of Technical Specification (TS) 6.8.1, Procedures, was identified when the licensee failed to follow Attachment 4, Manipulator Crane and Auxiliary Hoist Checkout, of Fuel Handling Procedure 20 (FHP-020), Refueling Operations, resulting in damaged grid straps on two fuel assemblies on April 23, 2009.

Specifically, the value of the manipulator crane gear limit setpoints for the lower core slow zone exceeded the values allowed by the checkout procedure. This resulted in the fuel handlers damaging the grid straps on two successive fuel assembly moves. The licensee entered this issue into their corrective action program (CAP) as action request (AR) #332368. As corrective actions, the licensee suspended the core offload, reset the lower core slow zone within tolerance, and permanently discharged the affected fuel assemblies. Additionally, the licensee committed to revise FHP-020 prior to the next refueling outage in order to prevent recurrence.

The violation was more than minor because it is associated with the human performance attribute of the Barrier Integrity cornerstone, and it affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. The finding was determined to be of very low safety significance because it was a deficiency associated with fuel handling errors that did not cause damage to fuel clad integrity or a dropped fuel assembly. The finding has a crosscutting aspect of Procedural Compliance, as described in the Work Practices component of the Human Performance cross-cutting area because the licensee accepted the out of tolerance values that were outside the acceptance criteria of the procedure.
Inspection Report# : [2009003](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

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 : March 01, 2010