

Hatch 2

4Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow transient combustible control requirements within the site's intake structure

An NRC identified Green non-cited violation (NCV) of Technical Specification 5.4, Procedures, was identified on August 14, 2012, for failure of the licensee to follow transient combustible control requirements within the site's intake structure. Specifically, inspectors discovered unattended transient combustibles within the intake, which is designated by site procedures as a transient combustible free zone. The licensee immediately removed the transient combustible from the intake structure, and entered this issue into their corrective action program as CR 500623.

Failure to follow transient combustible control requirements within the site's intake structure on August 14, 2012, was a performance deficiency. This performance deficiency is more than minor because it is associated with the Protection Against External Factors (Fire) attribute and adversely affected the Initiating Events cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during power operations. The performance deficiency is also similar to example 4.k. of IMC 0612 Appendix E, Examples of Minor Issues. Specifically, this issue meets the "Not minor if" criteria because identified transient combustibles were in a combustible free zone required for separation of redundant trains. Because this finding involved the administrative controls of transient combustibles, the inspectors utilized IMC 0609 Appendix F, Fire Protection Significance Determination Process, to assess the risk. This issue was assigned a low degradation rating in IMC 0609 Appendix F, step 1.2, because the degradation reflected a fire protection element whose performance and reliability was minimally impacted. Specifically the combustible liquids were not open and were contained within their approved containers. Because the finding was assigned a low degradation rating, this finding screened as Green per step 1.3. This performance deficiency has a cross-cutting aspect in the Work Practices component of the Human Performance area because personnel did not follow procedures for control of transients combustibles at the intake. [H.4(b)] (Section 1R05)

Inspection Report# : [2012004](#) (*pdf*)

Mitigating Systems

Significance: G Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Low voltage safety-related cables subjected to water submersion

The NRC identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," on October 16, 2012, when the licensee failed to maintain safety-related cables in an environment for which they were designed. Specifically, safety-related cables are not designed for continuous submersion in water. The inspectors determined that a diesel fuel oil storage tank level transmitter cable and the emergency diesel generator 2A fuel oil pump 2A2 power cable were exposed to continuous submersion in water. The licensee removed the accumulated water from the pull box and initiated condition report (CR) 534897 to enter this condition into the corrective action program for resolution.

Failure to maintain safety-related cables in an environment for which they were designed does not meet the 10 CFR

Part 50, Appendix B, Criterion III, "Design Control" requirement. The licensee should have identified this violation when addressing Generic Letter 2007-01 and therefore, this failure is a performance deficiency. The finding was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it is associated with the Equipment Performance attribute and adversely affected the Mitigating Systems Cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, subjecting a diesel fuel oil storage tank level transmitter cable and the 2A emergency diesel generator fuel oil transfer pump cable to continuous submersion could degrade the cable and result in failure. In accordance with IMC 0609, Attachment 4, Exhibit 2, "Mitigating Systems Screening Questions", dated June 19, 2012, the finding was determined to be of very low safety significance (Green) because questions 1 through 4 of Section A, "Mitigating SSCs and Functionality," were answered "no." The inspectors determined that the finding does not have a cross-cutting aspect because the cause of the finding was directly related to the licensee's Generic Letter 2007-01 review. This review occurred more than 3 years ago; therefore, the performance deficiency is not indicative of present licensee performance. (Section 1R06)

Inspection Report# : [2012005](#) (pdf)

Significance:  Nov 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Low voltage safety-related cables subjected to water submersion

The NRC identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," on October 16, 2012, when the licensee failed to maintain safety-related cables in an environment for which they were designed. Specifically, safety-related cables are not designed for continuous submersion in water. The inspectors determined that a diesel fuel oil storage tank level transmitter cable and the emergency diesel generator 2A fuel oil pump 2A2 power cable were exposed to continuous submersion in water. The licensee removed the accumulated water from the pull box and initiated condition report (CR) 534897 to enter this condition into the corrective action program for resolution.

Failure to maintain safety-related cables in an environment for which they were designed does not meet the 10 CFR Part 50, Appendix B, Criterion III, "Design Control" requirement. The licensee should have identified this violation when addressing Generic Letter 2007-01 and therefore, this failure is a performance deficiency. The finding was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it is associated with the Equipment Performance attribute and adversely affected the Mitigating Systems Cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, subjecting a diesel fuel oil storage tank level transmitter cable and the 2A emergency diesel generator fuel oil transfer pump cable to continuous submersion could degrade the cable and result in failure. In accordance with IMC 0609, Attachment 4, Exhibit 2, "Mitigating Systems Screening Questions", dated June 19, 2012, the finding was determined to be of very low safety significance (Green) because questions 1 through 4 of Section A, "Mitigating SSCs and Functionality," were answered "no." The inspectors determined that the finding does not have a cross-cutting aspect because the cause of the finding was directly related to the licensee's Generic Letter 2007-01 review. This review occurred more than 3 years ago; therefore, the performance deficiency is not indicative of present licensee performance. (Section 1R06)

Inspection Report# : [2012502](#) (pdf)

Significance:  Sep 30, 2012

Identified By: NRC

Item Type: FIN Finding

Licensed operator requalification annual operating test administration issues

An NRC-identified finding (FIN) was identified for the licensee's failure to adhere to licensed operator requalification examination standards during the administration of an annual operating test. Specifically, the licensee failed to adhere to the examination guide to allow adequate time for operating crews to respond to planned events, and the licensee failed to correct the error before finalizing operator evaluation and critique documentation. This affected the licensee's ability to effectively test and evaluate operator performance in response to a simulated malfunction in the automatic scram circuitry. As part of their immediate corrective action, the licensee re-evaluated the affected operators and

entered the issue into their corrective action program.

This performance deficiency was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems Cornerstone, and it adversely affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, the failure to adhere to scenario examination administration standards adversely affected the quality of the operating exams, which test licensed operator performance in order to ensure timely and accurate mitigating actions after an event. Using Inspection Manual Chapter 0609, Appendix I, Licensed Operator Requalification Significance Determination Process, this finding was determined to be of very low safety significance (Green) because it occurred in the simulator and was not an actual plant event, and the crew whose scenario was administered with the error was re-evaluated with an alternate scenario prior to resuming on-shift duties. The cause of the finding was related to the cross-cutting aspect of training of personnel and sufficient qualified personnel under the Resources component of the Human Performance cross-cutting aspect, because the scenario guide's narrative description of the required malfunction sequencing did not match the listed simulator operator actions in the body of the scenario guide. [H.2(b)] (Section 1R11)

Inspection Report# : [2012004](#) (pdf)

Significance:  Sep 06, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Adequately Account for Potential Pump Discharge Check Valve Back-leakage

Green. The team identified a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to verify or check the adequacy of design of the plant service water system including the pump discharge check valves allowable backleakage. As a result, the licensee entered the issue into their corrective action program as condition report 481741, performed an immediate determination of operability, and placed administrative control over the river level at which the pumps are declared inoperable to a level higher than the one specified in the plant's technical specifications until more detailed analyses could be performed. The limit was reduced back to the original technical specification level following the results of the analysis.

The failure to verify the adequacy of the plant service water system design through calculational methods or through a suitable test program as required by 10 CFR 50, Appendix B, Criterion III, was a performance deficiency. The performance deficiency was more than minor because it affected the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the reliability, availability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee did not implement a suitable test program to verify design inputs and ensure the capability of the system. The inspectors used Inspection Manual Chapter 0609, Att. 4, "Initial Characterization of Findings," for mitigating systems and Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," and determined the finding to be of

very low safety significance (Green) because the finding was a design control deficiency issue that did not result in a loss of operability or functionality of the PSW system. The performance deficiency was indicative of current licensee performance since the system hydraulic model was verified in 2011, and was directly related to the complete documentation and labeling cross-cutting aspect of the resources component in the area of human performance because the licensee did not have accurate design documentation for the potential pump discharge check valve leakage that could cause reverse rotation of the pumps [H.2(c)].

Inspection Report# : [2012008](#) (pdf)

Significance:  Sep 06, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Adequacy of Intake Structure Ventilation Design

Green. The team identified a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," in that the licensee failed to verify or check the adequacy of the design of the intake structure ventilation support function for the plant service water and residual heat removal service water systems. Following the team's discovery, the licensee

performed a bounding analysis and verified that the safety related components in the intake structure would not fail under the worst case high temperature conditions. The licensee entered the issue into their corrective action program as condition report 477809 to address the issue.

The failure to verify the adequacy of intake structure ventilation design through calculational methods or through a suitable test program as required by 10 CFR 50, Appendix B, Criterion III, was a performance deficiency. The performance deficiency was more than minor because it affected the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the reliability, availability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee did not have adequate measures in place to ensure negative effects due to heat loading did not affect the reliability, availability, and capability of intake structure equipment. The inspectors used Inspection Manual Chapter 0609, Att. 4, "Initial Characterization of Findings," for mitigating systems and Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," and determined the finding to be of very low safety significance (Green) because the finding was a design control deficiency issue that did not result in a loss of operability or functionality of the plant service water and residual heat removal service water systems. During the inspection, it was determined that there was adequate margin to preclude component failures when conservative heat loading and single failure criteria were assumed. No cross-cutting aspect was assigned to this finding because the failure to provide an adequate calculation or test is not indicative of current licensee performance due to the age of the heat load analysis.

Inspection Report# : [2012008](#) (pdf)

Significance:  Sep 06, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Incorporate Appropriate Test Acceptance Criteria to Assure Satisfactory Steady State EDG Performance

Green. The team identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for the licensee's failure to incorporate adequate acceptance limits in surveillance test procedures used to verify acceptable steady state output voltage of the emergency diesel generators. The licensee performed an immediate determination of operability to verify that the emergency diesel generators would reach and maintain a steady state voltage greater than the minimum 3,860 volts determined by the calculation and issued interim administrative limits for acceptable output voltage until technical specifications can be revised. The licensee entered this issue into their corrective action program as condition report 482310 to address the issue.

The licensee's failure to include the correct minimum steady state output voltage as surveillance test acceptance criteria for the emergency diesel generators was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding challenged the assurance that the acceptance criteria used during surveillance testing would ensure the emergency diesel generators could perform their intended safety function and remain operable. In accordance with IMC 0609.04, "Initial Characterization of Findings," the team used the mitigating systems column, which resulted in screening the finding through Inspection Manual Chapter 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at Power." The finding was determined to be of very low safety significance (Green) because it was not a design deficiency resulting in the loss of functionality or operability, did not represent an actual loss of system safety function, did not result in exceeding a technical specification allowed outage time, and did not affect external event mitigation. A cross-cutting aspect was not identified because this issue has existed since the implementation of Improved Technical Specifications on March 3, 1995, and is not indicative of current licensee performance.

Inspection Report# : [2012008](#) (pdf)

Significance:  Sep 06, 2012

Identified By: NRC

Item Type: FIN Finding

Failure to Provide Appropriate Acceptance Criteria for EDG Air-Start System Check Valves

Green. The team identified a finding for the licensee's failure to follow Regulatory Guide (RG) 1.155, "Station Blackout," guidance for testing and test control for the emergency diesel generator (EDG) air start system check valves. The testing deficiency was entered into the licensee's corrective action program as condition reports 490288 and 490210.

The failure to implement the guidance in RG 1.155, to which the licensee was committed in the station's Final Safety Analysis Report, was a performance deficiency. The performance deficiency was more than minor because it affected the procedure quality attribute of the Mitigating Systems Cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the capability of the EDGs to start following a station blackout coping period was not ensured by the licensee's test acceptance criteria for the air start check valves. The team used Inspection Manual Chapter 0609, Att. 4, "Initial Characterization of Findings," for mitigating systems and Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," and determined a detailed risk evaluation was required, because the finding represented an actual loss of function of a non-Technical Specification train of equipment designated as high safety significant in accordance with the licensee's maintenance rule program for greater than twenty-four hours. A regional senior reactor analyst performed an analysis to determine the risk associated with the finding. An actual loss of EDG function following a station

blackout would require all of the Unit 1 EDGs to fail to start, because if any Unit 1 EDG ran and was connected to either emergency bus, even for a relatively short time, an air compressor would partially or fully recharge the 1A EDG's air start tank. The calculation showed that the portion of plant risk that came from common cause fail to start of the Unit 1 EDGs, and of the site's EDGs was less than the threshold for greater than green for conditional core damage frequency or large early release frequency in the SDP. Therefore, the finding is Green. There was no cross-cutting aspect associated with this finding because the performance deficiency is not indicative of current licensee performance due to the age of the established test acceptance criteria for the check valve leakage.

Inspection Report# : [2012008](#) (pdf)**G****Significance:** Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate surveillance procedures for evaluating accumulated gas in the HPCI and RCIC systems

The inspectors identified a non-cited violation of Hatch Nuclear Plant Technical Specification 5.4, "Procedures," with five examples for the licensee's failure to establish, implement and maintain surveillance procedures for the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) systems. The deficiencies associated with the surveillance procedures precluded adequate evaluation of the as-found condition of those systems against acceptance criteria which serve as a basis for system operability. The licensee entered these five issues into their corrective action program under CRs 440646, 441302, 441333 and 441863. The immediate corrective actions included performing ultrasonic inspection of the surveillance test points which verified the absence of gas pockets. Interim corrective actions included implementing the performance of ultrasonic inspection of the surveillance test points immediately prior to venting the system in accordance with the surveillance procedure as a means to accurately quantify and evaluate the effects of any gas discovered.

For the five examples identified, the failure to establish, implement and maintain adequate surveillance procedures to identify and evaluate accumulated gas in the HPCI and RCIC systems were performance deficiencies. The performance deficiencies were determined to be more than minor because they affected the procedure quality attribute of mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the performance deficiencies challenged the assurance that procedures used to perform surveillance testing of the HPCI and RCIC systems had adequately identified and evaluated the as-found condition of those systems as a basis for continued system operability. Additionally, if the performance deficiencies were left uncorrected, assurance was challenged that any future voids in the HPCI and RCIC system would be adequately identified and evaluated. The team screened the finding in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance (Green). These performance deficiencies were assigned a cross-cutting aspect in the corrective action

component of the problem identification and resolution area because the licensee did not take adequate corrective actions in 2009 when weaknesses were identified with the surveillance procedures (P.1 (d)). (Section 40A5.3)

Inspection Report# : [2012003](#) (pdf)

Barrier Integrity

Significance:  Sep 30, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to establish adequate preventative maintenance for the safety related main control room air conditioning units

A self revealing Green NCV (with two examples) of Hatch Unit 1 and Unit 2 TS 5.4, Procedures, was identified for failure to establish and perform preventive maintenance activities to replace the B main control room condensing unit overload in the MS2 motor starter components prior to age related failure of the component. The licensee entered this issue into their corrective action program as CR 195542.

Failure to establish and perform preventive maintenance activities to replace aged B main control room condensing unit overload in the MS2 starter components prior to their failure is a performance deficiency. Specifically, section 5.4 of NMP-ES-006, "Predictive Maintenance Implementation and Continuing Equipment Reliability Improvement", requires, in part, that the licensee develop and maintain a documented maintenance strategy with recommended time-based preventive maintenance taking into account OEM/Vendor recommendations and other data affecting component reliability. This performance deficiency is more than minor because it adversely affected the SSC and Barrier Performance attribute of the barrier integrity cornerstone objective to ensure physical design barriers protect the public from radionuclide releases caused by accidents or events. The inspectors evaluated the finding in accordance with IMC 0609, Attachment 4, Initial Characterization of Findings, using table 2 Cornerstones Affected by Degraded Condition or Programmatic Weakness. The finding affected the barriers cornerstone. Further evaluation was required using Appendix A, The Significance Determination Process (SDP) for Findings At-Power. Based on Appendix A, Exhibit 3 Barrier Integrity Screening Questions, the finding represented a degradation of the radiological barrier function provided for the control room, spent fuel pool, or SBT system and therefore screened as Green. This finding has a cross-cutting aspect in the Operating Experience component of the Problem Identification and Resolution area because the licensee did not implement operating experience through changes to station procedures when prior age related failures were identified at the site. [P.2(b)] (Section 1R12)

Inspection Report# : [2012004](#) (pdf)

Significance:  Sep 30, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to follow clearance procedures for returning the A main control room air conditioning unit to service following maintenance

A self-revealing Green NCV of Hatch Unit 1 and Unit 2 Technical Specification 5.4. Procedures, was identified on June 21, 2012, when the "C" main control room air conditioning unit tripped due to loss of power when the licensee operated an electrical breaker outside of procedural guidance. The licensee entered this issue into their corrective action program as CR 473701.

Failure to restore the "A" main control room air conditioner tagout clearance in accordance with the tag removal list on June 21, 2012, was a performance deficiency. Specifically, tagout 1-DT-1Z41-00168(004) required the normal supply breaker for 1R24S029 to be maintained open but the breaker was improperly positioned closed instead. This performance deficiency was more-than-minor because it adversely affected the Human Performance attribute of the Barrier Integrity Cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclides caused by accidents or events. The inspectors evaluated the finding in accordance with IMC 0609,

Attachment 4, Initial Characterization of Findings, using Table 2 Cornerstones Affected by Degradation Condition or Programmatic Weakness. The inspectors determined that the finding affected the barriers cornerstone. Further evaluation was required using IMC 0609 Appendix A, The Significance Determination Process (SDP) for Findings At-Power. Based on Appendix A, Exhibit 3, Barrier Integrity Screening Questions, the finding represented a degradation of the radiological barrier function provided for the control room and therefore screened as Green. The inspectors determined this finding has a cross-cutting aspect in the Work Practices component of the Human Performance Area because the licensee did not communicate the human error prevention technique of holding an adequate pre-job brief for the restoration of the electrical portion of the tagout. [H.4(a)] (4OA2.2)

Inspection Report# : [2012004](#) (pdf)

Emergency Preparedness

Significance: G Nov 30, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Installation of a transformer for the TSC cooling coil and condensing unit control circuit not adequately designed to provide full system load

A self-revealing NCV of 10 CFR Part 50.54(q)(2), was identified when the licensee failed to maintain an adequate on-site Technical Support Center (TSC) to support emergency response. The violation existed from November 10 to December 22, 2011, when the TSC ventilation system was returned to service following a modification which replaced the TSC air conditioning cooling coils and condensing unit. During the modification, the control circuit transformer for the new cooling coil and condensing unit was not adequately sized to provide full system load. This resulted in a loss of the TSC air conditioning climate control system on December 21, 2011, when the undersized transformer tripped on thermal overload. The licensee replaced the undersized transformer with a properly sized transformer and entered this issue into their corrective action program as CR 386124.

The licensee's installation of a transformer for the TSC cooling coil and condensing unit control circuit that was not adequately designed to provide full system load was a performance deficiency. On December 21, 2011, this failure directly led to the licensee failing to meet 10 CFR 50.47(b)(8) which requires, in part, that adequate emergency facilities to support the emergency response are provided and maintained. The licensee failed to identify the undersized transformer design deficiency during both their modification documentation reviews and post modification testing. The performance deficiency was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it is associated with the Facilities and Equipment attribute and adversely affected the Emergency Preparedness Cornerstone objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, with the cooling coil and condensing unit control circuit transformer in a tripped condition the TSC is non-functional per the site's Technical Requirements Manual. This finding was evaluated in accordance with IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process," dated February 24, 2012. Utilizing Attachment 2 of IMC 0609, Appendix B, the inspectors determined the finding is associated with planning standard function 10 CFR 50.47(b)(8) Emergency Facilities and Equipment, which is not a risk-significant planning standard. Therefore the first two blocks (Loss of Risk Significant Planning Standard and Risk Significant Planning Standard Degraded Function) were answered, "no". The inspectors determined there was not a loss of the (b) (8) planning standard function, because the transformer was able to be reset, restoring air conditioning to the TSC, and key emergency response members would have been able to perform their assigned emergency plan function. Therefore per the flowchart this violation screened as Green. The finding has a cross cutting aspect in the resource component of the human performance area because DCP SNC330548, "Remove/Replace Cooling Coil and Condensing Unit serving TSC (1X75-B001 and 1X75-B002)," did not ensure the transformer for the cooling coil and condensing unit control circuit was designed to supply full control circuit load under high load demand. [H.2.(c)] (Section 4OA5.4)

Inspection Report# : [2012502](#) (pdf)

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : February 28, 2013