

# Hatch 1

## 2Q/2011 Plant Inspection Findings

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### Initiating Events

**Significance:** G Sep 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure to correct a condition adverse to quality with the IRM system results in reactor scram**

Green. A self-revealing NCV of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified for the failure to adequately correct a condition adverse to quality affecting the Intermediate Range Monitor (IRM) system. Consequently, a Unit 1 reactor scram occurred from 8% rated thermal power on May 10, 2009 during a reactor startup. The cause of the scram was attributed to IRM signal spikes on the A and H IRM instruments when the reactor mode switch was taken to run. Following the reactor scram, the licensee performed repair activities to correct degraded cables and connections to improve the grounding of the IRM system. Additionally, the licensee installed ferrite beads on each cable entering and exiting the IRM preamplifier on all eight IRM channels. This violation was entered into the licensee's corrective action program as CR 2009104764.

The failure to correct a condition adverse to quality is a performance deficiency. The licensee had several prior opportunities to fully investigate and correct the causes associated with IRM instrumentation spiking. Additionally, RER-2003-216 documents a decision not to make system improvements. This performance deficiency is more than minor because it is associated with the equipment performance attribute of the Initiating Events (IE) Cornerstone and adversely affected the IE cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the electrical noise sensed on the IRM A and H instruments resulted in Unit 1 reactor scram on May 10, 2009. The significance of this finding was screened using the Phase 1 of the SDP in accordance with NRC IMC 0609 Attachment 4, Table 4a. This finding screened as Green, because the finding did not contribute to both the likelihood of a reactor trip and likelihood that mitigation equipment or functions would not be available. The inspectors concluded that the finding had an associated crosscutting aspect in the Human Performance area under the Decision Making component because the licensee did not use conservative assumptions when putting RER-2003-216 on hold based on accepting the risk of not making incremental improvements in the IRM grounding system. (H.1(b))  
Inspection Report# : [2010004](#) (*pdf*)

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### Mitigating Systems

**Significance:** G Jun 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure to promptly identify and take corrective actions to ensure Bussmann fuses identified by the Part 21 notification 2005-37 were removed from use in safety related applications.**

A self-revealing NCV of 10 CFR 50, Appendix B, Criterion XVI, Corrective Actions, was identified for failure to promptly identify and take corrective actions to ensure Bussmann fuses identified by the Part 21 notification 2005-37, were removed from use in safety related applications. Corrective actions taken include replacing the KTN-R 10 amp fuses on the 1B emergency diesel generator with fuses manufactured after 1991, placing a hold on all KWN-R and KTN-R fuses size 30 amps below manufactured between 1987 and 1991, and replacement of these fuses with new KWN-R and KTN-R fuses with a date code 2009 or newer. This violation has been entered into the licensee's corrective action program as condition report (CR) 2010116039.

Failure to promptly identify and take corrective actions to ensure Bussmann fuses identified by the Part 21 notification

2005-37 were removed from use in safety related applications is a performance deficiency. This performance deficiency is more than minor because it is associated with the Equipment Performance attribute and adversely affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, on December 23, 2010, the Hatch 1B emergency diesel generator #3 stop circuitry operability light was discovered not illuminated on panel 1R43-P003B. Without power to this circuitry the 1B emergency diesel generator is inoperable and unavailable to provide its required safety function. The significance of this finding was screened using IMC 0609 Attachment 4, table 4a. The risk significance screening required a Phase 3 analysis, because the finding screened as potentially risk significant due to a seismic initiating event. The regional senior reactor analyst (SRA) performed a Phase 3 analysis for the finding. The analysis included two parts, the first covering the time period of total inoperability of the fuse; and the second covering the exposure time from when the non qualified fuses were installed until they were replaced, when they were subject to potential seismic failure. Calculations were performed using the NRC's plant specific risk models. The short exposure time for the first analysis, and the low likelihood of a seismic event at the plant for the second analysis, caused the combined result to be a very low risk condition. The finding was determined to be Green in the SDP. Because the performance deficiency occurred in 2006 and is outside the past three years, no cross-cutting aspect is assigned. (Section 40A2.2)

Inspection Report# : [2011003](#) (pdf)

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to consider potential adverse system interactions when developing procedure to open SRVs without power**

An NRC-identified NCV of 10 CFR 50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified for failure to establish adequate procedures that address potential adverse system interactions when opening safety relief valves (SRV) without power. Immediate corrective actions taken by the licensee include changing procedure 31EO-TSG-001-0, Attachment 6, SRV Actuation Without Power to Allow Injection with Portable Pump, to ensure the SRV control circuits are isolated electrically from the direct current (DC) busses prior to installing the portable DC power supply. This violation has been entered into the licensee's corrective action program as CR 2011106008.

Failure to address potential adverse system interactions when developing procedures affecting quality is a performance deficiency. This performance deficiency is more than minor because it is associated with the Procedural Quality attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of the safety relief valves to reduce reactor pressure in response to a loss of alternating current (AC) and DC power event. Because this finding is associated with B.5.b mitigation strategies, the finding was assessed using MC 0609 Appendix L, B.5.b Significance Determination Process, Table 2. The inspectors performed an initial screening and determined the finding did not meet the criteria listed within Table 2 for greater than Green significance therefore this finding was screened as Green. Because the mitigating strategy was developed and implemented in site procedures in 2007, the performance deficiency occurred outside the past three years and no cross-cutting aspect is assigned. (Section 40A5.3)

Inspection Report# : [2011003](#) (pdf)

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to address the anticipated environmental conditions when developing procedures to manually operate containment vent valves**

An NRC-identified NCV of 10 CFR 50, Appendix B, Criterion V. Instructions, Procedures, and Drawings, was identified for failure to establish adequate procedures that address the anticipated environmental conditions when operating containment vents without power. Immediate corrective actions taken by the licensee include changing procedure 34AB-R22-003-1/2, Station Blackout, to perform preliminary actions in the torus area before high containment pressure and temperature conditions require venting. This change is intended to allow required torus area entries to be performed prior to reaching high temperature conditions in the area. This violation has been entered into the licensee's corrective action program as CR 2011105966 and CR 2011106007.

Failure to address the anticipated environmental conditions when developing procedures affecting quality is a performance deficiency. This performance deficiency is more than minor because it is associated with the Procedural Quality attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of the containment vent valves to allow reliable pressure control of primary containment in response to a loss of AC and DC power event. This finding was assessed using MC 0609 Appendix L, B.5.b Significance Determination Process, Table 2. The inspectors performed an initial screening and determined the finding did not meet the criteria listed within Table 2 for greater than Green significance therefore this finding was screened as Green. Because the procedure was developed and implemented in 2005, the performance deficiency occurred outside the past three years and no cross-cutting aspect is assigned. (Section 40A5.3)

Inspection Report# : [2011003](#) (*pdf*)

**Significance:**  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inaccessbile fire hose station in the cable spreading room**

An NRC-identified NCV of Hatch Unit 1 operating license condition 2.C.(3) and Hatch Unit 2 operating license condition 2.C.(3)(a), Fire Protection, was identified for failure to maintain fire hose station HS-C20 operable while equipment in the area was required to be operable. Hose station HS-C20 was determined to be inaccessible to the fire brigade. Immediate corrective actions taken by the licensee included performing a fire protection alternate compensatory measures evaluation, (as required by Fire Hazards Analysis section 9.2, specification 1.6.1 action a), which resulted in staging an additional 100 feet of hose at hose station, HS-C21, located just outside of the cable spread room. This violation was entered into the licensee's corrective action program as CR 2011100783.

Failure to ensure the accessibility and thus operability of HS-C20 or take required compensatory action in accordance with Fire Hazards Analysis Section 9.2 Appendix B Specification 1.6.1 is a performance deficiency. This performance deficiency is more than minor because it adversely affected the protection against external events (fire) attribute of the Mitigating Systems cornerstone objective to ensure the availability and reliability of systems (safety related cable spreading room cabling) that respond to initiating events to prevent undesirable consequences. This violation was assessed using the Phase 1 screening worksheets of Attachment 4 and Appendix F of IMC 0609. The inspectors performed an initial qualitative screening and determined the inoperability of HS-C20 was a low degradation violation against the fire protection program. The cable spreading room fire area contains full pre-action sprinkler coverage and a manual carbon dioxide flooding system. Additionally, a manual hose station and fire extinguishers are located outside the primary access doors to the cable spreading room. Based on the low degradation of the fire protection program, this violation was screened as Green. The inspectors determined this performance deficiency had a cross-cutting aspect in the area of Problem Identification and Resolution under the Corrective Action Program component because the licensee did not appropriately identify the long standing issue of the inaccessibility of HS-C20 during monthly surveillance testing. (P.1(a)) (Section 1R05)

Inspection Report# : [2011002](#) (*pdf*)

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **Failure to control foreign material within a level 1 foreign material exclusion area**

A self-revealing NCV of Technical Specification 5.4, Procedures, was identified for the licensee's failure on March 7, 2011, to implement foreign material exclusion procedures and prevent foreign material entering the service water system intake, a Level 1 foreign material exclusion area. Immediate corrective actions were performed to retrieve the foreign material and the affected plant service water pump was returned to service on March 18. The licensee has entered this issue into their corrective action program as CR 2011102588 and CR 2011102657.

Failure to control foreign material in a Level 1 foreign material exclusion area is a performance deficiency. This performance deficiency is more than minor because it is associated with the equipment performance attribute and adversely affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, of systems that respond to initiating events to prevent undesirable consequences. Specifically, foreign material that was introduced into the plant service water intake area resulted in the unavailability of the 1C plant service water pump. The

significance of this finding was assessed in accordance with Inspection Manual Chapter 0609, Attachment 4. The finding screened as Green using the Mitigating Systems Cornerstone column of Table 4a of Attachment 4, specifically there was not a loss of function that exceeded the allowed out of service time. The inspectors determined this performance deficiency has a cross-cutting aspect in Work Control component of the Human Performance Area, because the licensee did not plan work activities by incorporating risk insights, job site conditions, environmental conditions, or the need for planned contingencies, compensatory actions, and abort criteria. (H.3(a)) (Section 1R19)

Inspection Report# : [2011002](#) (pdf)

**Significance:**  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Interaction of non-safety related power system with safety systems during bus transfers**

An NRC indentified NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, was identified for the failure to properly analyze electrical bus transfers that could adversely affect redundant safety buses. Specifically, the licensee failed to analyze the effects of severe voltage dips on the 4.160 kV safety buses that could occur if a loss of coolant accident occurred coincident with bus transfers that occur during a unit trip. The licensee entered this issue into their corrective action program as CR 2009105775.

The licensee's failure to properly analyze the effects of severe voltage dips during bus transfers was a performance deficiency. The finding was more than minor because it was associated with the Design Control attribute of the Mitigating System Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to properly analyze the effects of voltage dips that could occur following the transfer of the non-safety bus to the transformer supplying power to redundant safety-related buses during LOCA block loading. The finding was assessed for significance in accordance with NRC Manual Chapter 0609, a Phase III analysis was required since this finding represented a potential loss of safety system function for multiple trains which was not addressed by the Phase II pre-solved tables/worksheets. The regional SRA performed a Phase III analysis for the deficiency. Because the failure of the onsite power system (such as including the turbine/generator tripping scheme) would have to occur concurrent with the loading of large ECCS motors onto safety-related buses in response to an accident the event, the period of vulnerability for the trip is was assumed to be a few seconds. Therefore the likelihood of the event results in a risk very much below the threshold for a colored finding. Because this finding is not related to current licensee performance, no cross cutting aspect was identified. (Section 4OA5.2)

Inspection Report# : [2011002](#) (pdf)

**Significance:**  Feb 24, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Untimely Corrective Action for Installing Appendix R Emergency Lights**

Green. The team identified a non-cited violation of Hatch Unit 1 License Condition 2.C.3 and Unit 2 License Condition 2.C.3 (a) for the failure to take timely corrective actions to restore emergency lighting to be in compliance with 10 CFR Part 50, Appendix R, Section III.J. Specifically, during a 2006 triennial fire protection inspection, a total of ten Unit 1 and Unit 2 indicating instruments, credited for alternative post-fire safe shutdown, were identified in condition reports written in 2006, as not having dedicated emergency lighting units installed to illuminate the instruments. The licensee subsequently closed the 2006 condition reports to design change packages and, at the time of this inspection, had not implemented the modifications to restore compliance. The licensee entered the current non-compliance into their corrective action program as condition report CR 2010115127.

The licensee's failure to take timely corrective actions to address non-compliances with 10 CFR Part 50, Appendix R, Section III.J, as required by the licensee's fire protection program, is a performance deficiency. The finding is more than minor because it affects the human performance attribute of the Mitigating Systems cornerstone and the 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 finding affected the ability of operators to shutdown the reactor from outside the control room in the event of a fire. The team evaluated this finding using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process,"

Phase 1 Qualitative Screening Approach. The finding affects post-fire safe shutdown and was assigned a low degradation rating because operators had a high likelihood of completing tasks requiring use of the affected indicators using hand-held portable lights. The finding is characterized as Green, a finding of very low safety significance. The finding has a cross-cutting aspect in the Human Performance Area, Resources component, because the licensee failed to ensure that equipment was available and adequate to assure nuclear safety. Specifically, the licensee did not ensure that emergency lighting units were adequate to support post-fire safe shutdown actions (H.2 (d)).

Inspection Report# : [2010009](#) (*pdf*)

**Significance:**  Sep 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure to correct a condition adverse to quality results in 1A emergency diesel generator fuel oil line failure**

Green. A self-revealing NCV of 10 CFR 50 Appendix B Criterion XVI, Corrective Action, was identified for the licensee's failure to promptly identify and correct a diesel fuel oil leak on the 1A emergency diesel generator. The fuel oil leak was identified by the licensee on April 1, 2010 and the licensee scheduled the leak to be repaired in May 2011. The fuel oil line failed on June 3, 2010 which rendered the emergency diesel generator unavailable and incapable of performing its required safety functions. The licensee replaced the fuel oil fitting and restored operability of the 1A emergency diesel generator on June 5, 2010 to restore compliance. This violation has been entered into the licensee's corrective action program as CR 2010107248.

Failure to ensure the appropriate quality, level of detail, and documentation of assumptions contained within an operability evaluation is a performance deficiency. This performance deficiency is more than minor because it adversely affected the Mitigating Systems Cornerstone objective, specifically the failure to promptly identify and correct a fuel oil line leak on the 1A emergency diesel generator directly resulted in the failure of the fuel oil line rendering the emergency diesel generator unavailable and incapable of performing its required safety functions. IMC 0609 Attachment 4 was used and per table 4a screened as requiring a Phase 2 analysis due to this finding resulting in the single train of the emergency diesel generator being inoperable greater than its allowed outage time contained within Technical Specifications. The emergency diesel generator was unable to perform its intended safety functions from the last successful surveillance test on May 4 through June 3, 2010 yielding an exposure time of 30 days. The pre-solved Phase 2 table contains the 1A emergency diesel generator, and for an exposure time of 3-30 days results in a preliminary significance of White and requiring a Phase 3 analysis to be performed. The Phase 3 analysis resulted in the risk being reduced to less than 1E-6 and the finding was determined to be Green. The inspectors determined this performance deficiency had a cross-cutting aspect in the area of Human Performance under the Work Control component (H.3(b)) because the licensee did not appropriately coordinate work activities through proper communications and consideration of the actual fuel oil leak rate.

Inspection Report# : [2010004](#) (*pdf*)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

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