

# McGuire 1

## 1Q/2011 Plant Inspection Findings

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### Initiating Events

**Significance:** G Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to determine the cause and take corrective action to preclude repetition for control room area chilled water system**

An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, was identified for the licensee's failure to determine the cause of a significant condition adverse to quality involving both trains of Control Room Area Chilled Water System (CRACWS) being out of service at the same time. This resulted in insufficient corrective action to preclude repetition. The licensee reopened the root cause investigation to determine the cause and was resolving the high cycle fatigue issue on the hot gas bypass line.

The performance deficiency was more than minor because, if left uncorrected, it had the potential to lead to a more significant safety concern in that failing to identify corrective actions to preclude repetition could result in the loss of safety function of more risk-significant equipment such as emergency diesel generators. This finding was determined to be of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding was associated with the cross-cutting aspect of supervisory and management oversight in the Work Practices component of the Human Performance area because management's establishment of the scope and reviews of the completed root cause evaluation failed to provide adequate oversight to ensure the cause of a significant condition adverse to quality was determined and corrective actions were taken to preclude repetition. [H.4(c)] (Section 40A3)

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

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### Mitigating Systems

**Significance:** SL-IV Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to update the UFSAR for GL 91-13**

An NRC-identified SL-IV non-cited violation (NCV) of 10 CFR 50.71(e) was identified when the licensee did not update the Updated Final Safety Analysis Report (UFSAR) to reflect their response to Generic Letter (GL) 91-13, Essential Service Water System Failures at Multi-Unit Sites, which described capabilities in existing procedures for cross-connecting nuclear service water (RN) between units. Licensee corrective actions include submitting a license amendment and updating the UFSAR following amendment approval.

This performance deficiency (PD) was considered as traditional enforcement because it had the potential for impacting the NRC's ability to perform its regulatory function. This PD was determined to be a SL-IV violation using Section 6.1 of the NRC Enforcement Policy because it did not result in a condition evaluated as having low-to-moderate or greater safety significance (i.e., White, Yellow, or Red). Cross-cutting aspects are not assigned to traditional enforcement violations. (Section 1R11.1)

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

**Significance:** SL-IV Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to obtain a license amendment for RN sharing between units**

An NRC-identified SL-IV NCV of 10 CFR 50.59 was identified for making changes to the UFSAR, section 9.2, and Abnormal Procedure AP-20, Loss of RN, which required prior NRC approval. The changes allowed donating a train of nuclear service water to the unit experiencing a loss of service water (LOSW) event by opening the unit crossover valves. Licensee corrective actions include removing the steps from AP-20, submitting a license amendment request, and updating the UFSAR following amendment approval.

This PD was considered as traditional enforcement because it had the potential for impacting the NRC's ability to perform its regulatory function. This PD was determined to be a SL-IV violation in accordance with Section 6.1 of the NRC Enforcement Policy because it did not result in a condition evaluated as having low-to-moderate or greater safety significance (i.e., White, Yellow, or Red). Cross-cutting aspects are not assigned to traditional enforcement violations. (Section 1R11.2)

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

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to eliminate fish in the SNSWP**

A self-revealing Green NCV of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, was identified for the licensee's failure to correct a condition adverse to quality. The licensee had previously identified that the fish population in the Standby Nuclear Service Water Pond (SNSWP) had significantly increased but failed to perform the annual fish eradication of the SNSWP to prevent macro-fouling of the RN pump suction strainers. This resulted in the licensee declaring both trains of RN inoperable and entry into TS 3.0.3 for both units. Licensee corrective actions included chemically treating the SNSWP to eliminate the macro-fouling source, flushing the RN intake lines, and establishing a periodic chemical treatment of the SNSWP.

This PD was more than minor because it was associated with the equipment performance attribute and adversely impacted the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of the RN system to provide long term decay heat removal because the macro-fouling of the suction strainers rendered the RN pumps inoperable. This finding was evaluated using IMC 0609, Significance Determination Process, with an exposure time of greater than 30 days. A Phase 3 SDP analysis was required to be performed and determined the resultant core damage frequency (CDF) was  $<1E-6$  (Green). This finding was determined to be directly related to the conservative assumptions aspect of the Decision Making component in the Human Performance cross-cutting area because the licensee's decisions to defer the macro-fouling treatment of the SNSWP were non-conservative [H.1(b)]. (Section 40A3.3)

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

**Significance:**  Oct 22, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Correct a Condition Adverse to Quality Associated with Emergency Diesel Generators Fuel Transfer System Niagara Flow Meters**

The NRC identified a Non-cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for the licensee's failure to correct a condition adverse to quality in that a single vulnerability failure of the fuel transfer (FD) system Niagara flow meters identified in 2003 could potentially restrict fuel flow to the EDGs which would impact their safety function. In addition, these flow meters were identified as a Category A risk component which required preventative maintenance (PM) strategy and no PM or inspection for these flow meters was ever performed. This issue was documented in the corrective action program as PIP M-10-6442 and the license intends to replace the flow meters for 1A EDG and 2A EDG in 2011.

The inspectors concluded that the failure to correct a condition adverse to quality for the FD system flow meters identified in 2003 was a performance deficiency (PD). The PD was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone in that it adversely affected the reliability

of the EDGs to respond to initiating events to prevent undesirable consequences in that the flow meters could potentially restrict fuel flow to the EDGs which would impact their safety function. The finding was determined to have very low safety significance (Green) because there was no loss of safety function of any EDG train. The inspectors determined that the cross-cutting area of Human Performance, component of Work Control, and aspect of Work Planning was applicable because the licensee did not incorporate risk insights in their plan work activities to remove this potential single vulnerability failure of Niagara flow meters in a timely manner. H.3(a) (40A2)

Inspection Report# : [2010006](#) (pdf)

**Significance: SL-IV** Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to update the UFSAR for a modification to the VG system**

An NRC-identified SL-IV NCV was identified when the licensee did not update the Updated Final Safety Analysis Report (UFSAR) for a modification to the emergency diesel generator air start system (VG) on both units. This modification installed cross-connect piping between the two VG receivers on each emergency diesel generator to allow maintaining receiver pressure when an air compressor was out of service. Licensee corrective actions include updating the UFSAR and Design Basis Documents and processing a Technical Specification (TS) change to make the TS applicable to the cross-connected configuration. This violation is in the licensee's corrective action program as PIPs M-10-5299 and M-10-5504.

This performance deficiency was considered as traditional enforcement because not having an updated UFSAR hinders the licensee's ability to perform adequate 10 CFR 50.59 evaluations and can impact the NRC's ability to perform its regulatory function such as license amendment reviews and inspections. This violation was determined to be a SL-IV violation using Section 6.1 of the NRC's Enforcement Policy because the inaccurate information was not used to make an unacceptable change to the facility. Cross-cutting aspects are not assigned to traditional enforcement violations. (Section 1R04)

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

**Significance: SL-IV** Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to update the UFSAR for new EDG tripping functions**

A NRC-identified SL-IV NCV of 10 CFR 50.71(e) was identified when the licensee failed to update the UFSAR following a modification that installed new protective functions for the emergency diesel generators (EDGs). This violation is in the licensee's corrective action program as PIP M-10-05718

This performance deficiency was considered as traditional enforcement because not having an updated UFSAR hinders the licensee's ability to perform adequate 10 CFR 50.59 evaluations and can impact the NRC's ability to perform its regulatory function such as license amendment reviews and inspections. This violation was determined to be a SL-IV violation using Section 6.1 of the NRC's Enforcement Policy because the inaccurate information was not used to make an unacceptable change to the facility. Cross-cutting aspects are not assigned to traditional enforcement violations. (Section 1R17)

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

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate Risk Assessment Associated With 1EVIB Troubleshooting Activities**

•Green. The inspectors identified a non-cited violation (NCV) of 10 CFR 50.65(a)(4) for an inadequate risk assessment prior to performing maintenance troubleshooting activities on the 120VAC Vital Instrument & Control (I&C) Power System. The troubleshooting activities resulted in the unavailability of one channel of the 120VAC Vital I&C Power system which had not been adequately considered in the risk assessment. Specifically, before aligning the AC vital bus and cross-tying the DC vital busses, the licensee did not adequately evaluate the increase in risk of losing 120VAC vital bus 1EKVB. The licensee entered this issue into their corrective action program as PIP M-10-03700

and plans to re-evaluate the deterministic electronic risk assessment tool against the actual PRA risk for the loss of a single vital 120VAC bus.

The finding is more than minor because it was similar to example 7(f) of IMC 0612, Appendix E, in that it involved the failure to perform an adequate risk assessment prior to performing troubleshooting activities on a safety related system where the outcome of the risk assessment would have resulted in an increase in the licensee's risk management category (from Green to Red), and therefore would have required additional risk management actions. The inspectors determined it to be of very low risk significance (Green) because the Risk Deficit during the timeframe that the 120VAC Vital I&C bus was removed from service was calculated by the licensee to be less than 1.0E-6. This finding is associated with the cross-cutting aspect of appropriate planning of work activities in the work control component of the Human Performance cross-cutting area [H.3(a)] in that the licensee did not adequately incorporate risk insights prior to performing troubleshooting activities. (Section 1R13)

Inspection Report# : [2010003](#) (pdf)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

**Significance:**  Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to barricade, conspicuously post, and adequately control access to a HRA**

•Green. A self-revealing NCV of TS 5.7.1 was identified for the failure of the licensee to barricade, conspicuously post, and adequately control access to a high radiation area (HRA). Specifically, on September 17, 2009, a crane flagman on a Radiation Work Permit (RWP) that did not allow access to a HRA, inadvertently entered an unposted but guarded transient HRA and recorded an electronic dosimeter (ED) dose rate alarm at 128 mrem/hr. The worker was unable to hear the alarm due to wearing a headset and not wearing an auxiliary alarm device as specified in station procedures for HRA entries. The worker had been briefed to not enter the area when an irradiated instrument was on the floor and that the guard would prevent his entering the area. The guard was not positioned to prevent entry into the area and did not detect the flagman entering the area until he had already passed the source. The licensee entered this issue into their corrective action program as PIP M-10-05506.

The finding is greater than minor because it is associated with the cornerstone attribute of exposure control and affected the Occupational Radiation Safety Cornerstone objective of ensuring the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation because it resulted in unplanned or unintended radiation dose. The finding was determined to be of very low safety significance (Green) because it was not an ALARA finding or overexposure, did not have a substantial potential for overexposure, and did not compromise the ability to assess dose. The cause of the finding was directly related to the cross-cutting aspect of radiological safety in the work control component of the Human Performance area because the licensee did not adequately control the areas as a HRA. [H.3(a)] (Section 2RS1).

Inspection Report# : [2010003](#) (pdf)

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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

**Significance:** N/A Oct 22, 2010

Identified By: NRC

Item Type: FIN Finding

### **2010 McGuire PI&R**

The inspectors concluded that, in general, problems were properly identified, evaluated, prioritized, and corrected. The licensee was effective at identifying problems and entering them into the corrective action program (CAP) for resolution, as evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by the licensee, during the review period. The licensee effectively used risk in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementing corrective actions. Generally, prioritization and evaluation of issues were adequate, formal root cause evaluations for significant problems were adequate, and corrective actions specified for problems were acceptable. However, the inspectors identified several examples where issues were not prioritized in accordance with site CAP guidance and two examples of evaluations which lacked appropriate rigor. Overall, corrective actions developed and implemented for issues were generally effective and implemented in a timely manner.

The inspectors determined that overall, audits and self-assessments were adequate in identifying deficiencies and areas for improvement in the CAP, and appropriate corrective actions were developed to address the issues identified. Operating experience usage was found to be generally acceptable and integrated into the licensee's processes for performing and managing work, and plant operations.

Based on discussions and interviews conducted with plant employees from various departments, the inspectors determined that personnel at the site felt free to raise safety concerns to management and use the CAP to resolve those concerns.

Inspection Report# : [2010006](#) (*pdf*)

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