

## McGuire 1 3Q/2016 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:** G Mar 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**“Failure to Maintain Fire Extinguishers in Contaminated Radiation Control Zones in Accordance with the Fire Protection Program.”**

Green. An NRC-identified Green non-cited violation (NCV) of the McGuire Nuclear Station Unit 1 and Unit 2 Renewed Facility Operating License Condition 2.C.4, “Fire Protection Program (FPP),” was identified for failure to perform annual maintenance on fire extinguishers located in contaminated radiation control zones (RCZs). The licensee took immediate corrective action to replace the past due fire extinguishers and entered the issue into their corrective action program as action request (AR) 02009794.

The performance deficiency (PD) was more than minor because if left uncorrected the PD could have the potential to lead to a more significant safety concern, in that, fire extinguishers located in any contaminated RCZs may not be functional for firefighting purposes due to lack of maintenance. Every fire extinguisher, five total, located in a contaminated RCZ, did not have its annual maintenance up-to-date. The longest duration without annual maintenance was six years for two of the five extinguishers. The finding was determined to be of very low safety significance (Green) within the mitigating system cornerstone because it would not affect the ability to reach and maintain a safe shutdown condition, in that, for each of the fire areas where the out-of-date extinguishers were present, there were also properly maintained fire extinguishers and hose stations outside of the RCZ. The out-of-date extinguishers were weighed and it was determined that they would have performed their function, if needed. The cause of the PD was directly related to the cross-cutting aspect of field presence in the cross-cutting area of human performance because the licensee failed to correct deviations from the FPP and ensure proper oversight of the vendor contracted to perform fire extinguisher maintenance. [H.2] (Section 1R05)

Inspection Report# : [2016001](#) (*pdf*)

**Significance:** G Dec 11, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Completely and Accurately Translate the Safe Shutdown Analysis to Procedures**

Green. The NRC identified a Green non-cited violation (NCV) of McGuire Technical Specification 5.4.1.a, for Unit 1, for having an inadequate procedure to support safe shutdown for a fire in fire area (FA) 15/17. Specifically, the licensee’s deterministic safe shutdown analysis identified the need for a procedural action to de-energize PORV 1NC-34A at power supply 1EVDA, breaker 8. This action was not translated to Enclosure 15 of McGuire fire safe shutdown procedure AP-45. This item was entered into the corrective action program (CAP) as action requests (ARs) 1979875 and 1983360, and the licensee initiated a procedure change to incorporate the missing action.

The performance deficiency (PD) was more than minor because it was associated with the reactor safety Mitigating Systems cornerstone attribute of protection against external factors (i.e. fire), and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the guidance of IMC 0609, App. F, the finding was screened as Green because the finding did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event (Task 1.4.5-B). No cross cutting aspect was assigned because the finding did not represent current licensee performance.

Inspection Report# : [2015008](#) (pdf)

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## Barrier Integrity

**Significance:**  Jun 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to perform general visual examinations of containment moisture barriers associated with containment liner leak chase test connections.**

Green: An NRC-identified Green non-cited violation (NCV) of 10 CFR Part 50.55a, “Codes and Standards,” was identified for the licensee’s failure to perform general visual examinations of moisture barrier material in the reactor containment leak-chase channel test connections in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME BPV Code), Section XI, Subsection IWE. The licensee performed the required examinations in Unit 1 during the March 2016 refueling outage and initiated corrective actions to revise the Containment Inservice Inspection (ISI) Plan. The licensee also planned to perform similar examinations in Unit 2 prior to the end of the first containment ISI period. Additionally, the licensee performed a containment operability determination to justify continuous operation of the Unit 1 and Unit 2 containment based on the results of all visual examinations, extent of condition activities, and the results of containment integrated leak rate tests. The licensee entered this issue into their corrective action program as action request (AR) 02038505.

The failure to conduct the required visual examination of moisture barrier material in accordance with the ASME BPV Code was a performance deficiency (PD). The PD was of more than minor significance per IMC-0612, Appendix B, “Issue Screening,” because the current Containment ISI Plan did not adequately implement the ASME BPV Code requirements for the examination of moisture barriers, and if left uncorrected, it had the potential to lead to a more significant concern. The finding was of very low safety significance (Green) per IMC-0609 because it did not represent an actual open pathway in the physical integrity of the reactor containment and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. The finding had a cross-cutting aspect of resolution in the problem identification and resolution cross-cutting area because the licensee did not take effective corrective actions to implement the ASME BPV code requirements in the Containment ISI Plan when a reasonable opportunity was available through the review of NRC Information Notice (IN) 2014-07. [P.3] (Section 1R08)

Inspection Report# : [2016002](#) (pdf)

**Significance:**  Jun 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to ensure containment equipment hatch was properly closed during fuel movements.**

Green: An NRC-identified Green NCV of Technical Specification (TS) 5.4.1.d, “Procedures,” was identified for the licensee’s failure to adequately implement the commitments in Selective Licensee Commitment (SLC) 16.9.25,

“Refueling Operations – Containment Equipment Hatch,” which required the containment equipment hatch to be closed during the movement of non-recently irradiated fuel inside containment. Specifically, during reactor vessel fuel reload activities, the inspectors identified that the equipment hatch was left partially open due to the failure to properly tighten the bolts evenly around the hatch resulting in direct communication of the containment atmosphere with the environment. The licensee took immediate corrective action to suspend fuel movements and properly tighten the equipment hatch bolts prior to resuming fuel movements and entered the issue into their corrective action program as ARs 02018605 and 02018701.

The PD was more than minor because it impacted the configuration control attribute of the barrier integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that containment protects the public from radionuclide releases caused by accidents or events. Additionally, if left uncorrected, the PD would have the potential to lead to a more significant safety concern. Specifically, the radiological barrier functionality of the containment equipment hatch was degraded due to the gap opening which could have allowed direct access of radiological releases from the containment atmosphere to the outside environment during a potential fuel handling accident inside containment. The inspectors screened the finding in accordance with IMC 0609, Appendix G, “Shutdown Operations Significance Determination Process,” Attachment 1, “Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings.” Because the finding degraded the ability to close or isolate the containment, it required review using IMC 0609, Appendix H, “Containment Integrity Significance Determination Process.” While the containment boundary function was considered degraded, the incident occurred eight days after the beginning of the refueling outage when short lived volatile radioisotopes had decayed sufficiently such that the potential radiological releases to the public would not likely contribute to the large early release frequency (LERF). Based on this, the finding was screened as having very low safety significance (Green). The cause of the PD was directly related to the cross-cutting aspect of procedure adherence in the cross-cutting area of human performance because the licensee failed to follow containment equipment hatch closing procedures which explicitly required performing a visual inspection that the containment equipment hatch was sealed and secured with metal-to-metal contact with the containment hatch flange and had no visual gaps. [H.8] (Section 1R20)  
Inspection Report# : [2016002](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## **Miscellaneous**

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