

# Brunswick 1

## 4Q/2014 Plant Inspection Findings

---

### Initiating Events

**Significance:**  Sep 30, 2014

Identified By: NRC

Item Type: FIN Finding

#### **Inadequate Procedure to Perform Core Ground Checks on the Common Bus C Transformer**

A self-revealing Green finding of Licensee Procedure OPM-XMR001, ITE Substation Transformers, was identified for the failure to have an adequate procedure to perform preventative maintenance on the Common Bus C 4160/480V Transformer. Specifically, between May 6, 2009 and March 23, 2012, the licensee failed to incorporate Procedure Revision Requests (PRRs) 312951 and 334482 to add core ground testing of the Common C transformer, resulting in the transformer failing and a Unit 1 manual reactor SCRAM. The licensee replaced the transformer to Common Bus C. The licensee entered this issue into the CAP as nuclear condition report (NCR) 519193.

The inspectors determined that the failure of the licensee to have an adequate procedure to perform preventative maintenance on the Common Bus C transformer was a performance deficiency. The finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events Cornerstone and affects the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to perform preventative maintenance on the Common Bus C transformer resulted in the transformer failing and a Unit 1 manual reactor SCRAM. Using IMC 0609, Appendix A, issued June 19, 2012, the SDP for Findings At-Power, the inspectors determined the finding was of very low safety significance (Green) because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The finding does not have a cross-cutting aspect since the performance deficiency is not indicative of current plant performance. The PRR was initiated on May 6, 2009.

Inspection Report# : [2014004](#) (*pdf*)

---

### Mitigating Systems

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Protect Emergency Diesel Generator 4-Day Fuel Oil Tank Ventilation Piping from Tornado Missiles**

The NRC-identified a Green non-cited violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion III, Design Control, for the failure to ensure adequate tornado missile protection for the emergency diesel generator (EDG) 4-day fuel oil tank ventilation piping. Specifically, it was determined that the ventilation piping could be sheared with a design basis tornado missile at the 4-day fuel oil tank building roof level and water intrusion into the EDG fuel oil system would occur during a design basis rain event that would prevent the diesel from performing its required safety function. The licensee documented this issue in their corrective action program (CAP) and performed corrective actions to install concrete blocks around the piping.

The inspectors determined that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, because it is associated with the Mitigating Systems Cornerstone attributes of Protection Against External Factors and Equipment Performance, 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, it was determined that the ventilation piping could be sheared with a design basis tornado missile at the 4-day fuel oil tank building roof level and water intrusion into the EDG fuel oil system would occur during a design basis rain event that would prevent the EDG from performing its required safety function. Using IMC 0609, Appendix A, issued June 19, 2012, "The Significance Determination Process (SDP) for Findings At-Power," the inspectors determined the finding screened to a detailed risk evaluation since the EDG1 fuel oil system was assumed to be completely failed due to a tornado, and it would degrade one or more trains of a system that supports a risk significant system or function. The regional Senior Reactor Analyst performed a detailed risk evaluation by using a qualitative screening analysis to determine the significance of the finding. Tornado initiating event frequency was derived from Nation Weather Service data. Because of the low likelihood of a tornado powerful enough to throw an object of sufficient size to damage the piping, the remote chance the thrown object would strike the vent pipe, and because the remaining EDGs would not be impacted in the same way by the tornado, the finding was determined to be Green. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding is an old design issue that has been in place since original plant construction.

Inspection Report# : [2014005](#) (*pdf*)

**Significance:** G Sep 30, 2014

Identified By: NRC

Item Type: FIN Finding

**Failure to Correct SLC Tank Level Indication Degradation**

An NRC-identified Green finding of Licensee Procedure AD-PI-ALL-0100, Corrective Action Program (CAP), was identified for the failure of the licensee to identify and correct a condition adverse to quality with the Unit 2 standby liquid control (SLC) control room level indicator. Specifically, between February 25, 2012, and August 17, 2014, the licensee failed to identify and correct three clogged SLC tank level indicators before the indicators failed. The licensee's corrective actions included cleaning out the SLC tank level indicator bubbler and evaluating the adequacy of the preventative maintenance associated with this indicator. The licensee entered this issue into the CAP as NCRs 704327 and 704593.

The inspectors determined that the failure of the licensee to identify and correct the clogged SLC tank level indicators before the indicators failed was a performance deficiency. The finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, this resulted in the instrument reading a higher tank level than actual due to the flow restriction in the bubbler tube, and the inoperability of the instrument. Using IMC 0609, Appendix A, issued June 19, 2012, the SDP for Findings At-Power, the inspectors determined the finding was of very low safety significance (Green) because the finding did not affect the design or qualification of a mitigating structure, system and component (SSC), the finding did not represent a loss of system and/or function, the finding did not represent an actual loss of a function of a single train for greater than the technical specifications (TS) allowed outage time, the finding did not represent an actual loss of a function of one or more non-TS trains of equipment, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of human performance associated with the work management attribute because the licensee failed to implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. The licensee failed to have the work process include the identification and management of risk commensurate to the work and the need for coordination with different groups. Specifically, the licensee failed to identify and manage the risk of the SLC tank level indicator bubbler clogging issue. [H.5]

Inspection Report# : [2014004](#) (*pdf*)

**Significance:**  Jun 30, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Include Flood Protection Features in the Maintenance Rule Program**

An NRC-identified Green non-cited violation (NCV) of 10 CFR 50.65(b)(2)(ii) was identified for the failure of the licensee to scope flood protection features in the maintenance rule (MR) program. Specifically, from July 10, 1996, to May 8, 2014, the licensee failed to include floor drain flood protection features in the MR program that are nonsafety-related but whose failure could prevent safety-related structures, systems, and components (SSCs) from fulfilling their safety-related function. The licensee's corrective actions included scoping the floor drains into the MR program. The licensee entered this issue into the corrective action program (CAP) as nuclear condition report (NCR) 677850.

The inspectors determined that the failure of the licensee to monitor flood protection features in the MR program, as required by 10 CFR 50.65(b)(2)(ii), was a performance deficiency. The finding is more than minor because it is associated with the protection against external factors (i.e. flood hazard) attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of the safety related systems to respond to initiating events to prevent undesirable consequences. Specifically, the finding is more than minor because failing to monitor flood protection features resulted in degradation of various flood protection features which could have impacted safety-related equipment. Using IMC 0609, Appendix A, issued June 9, 2012, The SDP for Findings At-Power, Exhibit 2, the inspectors determined the finding is of very low safety significance (Green) because it did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding has a cross-cutting aspect in the area of problem identification and resolution associated with the resolution attribute because the organization failed to take effective corrective actions to address issues in a timely manner commensurate with their safety significance. Specifically, the licensee failed to scope the credited flood protection floor drains into the MR program. [P.3]

Inspection Report# : [2014003](#) (*pdf*)

## **Barrier Integrity**

## **Emergency Preparedness**

**Significance:**  Jun 30, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Maintain a Standard Emergency Action Level Scheme for Flooding**

An NRC-identified Green NCV of 10 CFR 50.54(q)(2), 10 CFR 50.47(b)(4), and the requirements of Appendix E to 10 CFR Part 50, was identified for the failure of the licensee to maintain the effectiveness of the emergency plan. Specifically, from November 6, 2009, to July 21, 2014, the licensee failed to maintain in effect, a standard emergency action level (EAL) scheme by failing to provide effective means for determining flooding water levels which is required to properly classify an ALERT during a probable maximum hurricane (PMH). The licensee's corrective actions include painting level indication on the service water building visible to the operator stationed at the service water building to determine when the ALERT flood level is reached. The licensee entered this issue into the CAP as NCRs 688613 and 693590.

The inspectors determined that the failure to provide reliable and timely indication for operators to adequately implement the ALERT flooding EAL HA 1.5 was a performance deficiency. The finding is more than minor because it is associated with the Facilities and Equipment attribute of the Emergency Preparedness (EP) cornerstone and affected the cornerstone objective to ensure 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, the licensee's ability to classify an ALERT for a flooding event was adversely affected because flood levels could not be adequately determined. In accordance with the IMC 0609, Appendix B, "Emergency Preparedness Significance Determination," issued February 24, 2012, and Figure 5.4-1, the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency was a condition where an EAL has been rendered ineffective such that an ALERT would not be declared for a flooding event. The finding has a cross-cutting aspect in the area of human performance associated with the resources attribute because leaders failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety and declare an ALERT for a PMH. [H.1]

Inspection Report# : [2014003](#) (*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 26, 2015