

## Byron 1

### 4Q/2016 Plant Inspection Findings

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#### Initiating Events

**Significance:** G Jun 30, 2016

Identified By: NRC

Item Type: FIN Finding

##### **Failure to Perform ASME Code Case Required Extent of Condition to Identify Unacceptable Piping Flaws**

Green. A finding of very-low safety significance was identified by the inspectors when, upon identification of a through-wall leak, the licensee declared the structural integrity of Class 3 fire protection piping to be operable, but failed to perform augmented examinations within 30 days as required by American Society of Mechanical Engineers (ASME) Code Case N-513-3. The licensee repaired the leaking pipe, and upon identification by the inspectors, documented the issue in their corrective action program (CAP) as IRs 2639930 and 2652145, and performed the required augmented examinations.

The inspectors determined the performance deficiency was more than minor because, if left uncorrected, the finding had the potential to lead to a more significant safety concern. Specifically, the augmented examinations identified a location where wall thickness measurements were below the acceptance criteria such that the pipe could have ruptured during a seismic event, impacting the functionality of the fire protection system and causing a flooding hazard in the auxiliary building. Because the finding involved an internal flooding hazard, a detailed risk evaluation was performed, which determined the finding to be of very low safety significance. The inspectors determined the finding had a cross-cutting aspect in the Problem Identification and Resolution area of Evaluation [P.2], because the licensee failed to thoroughly evaluate the issue to ensure that the resolution addressed the cause and extent of condition commensurate with the safety significance. Specifically, the licensee failed to complete the N-513-3 evaluation and perform the required extent of condition activities in a timely manner as specified by the ASME Code Case. (Section 1R12.1)

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

**Significance:** G Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

##### **Entry into Mode 3 with Turbine trip Function of SSPS Disabled**

Green. A finding of very low safety significance and associated non-cited violation (NCV) of Technical Specification (TS) Limiting Condition for Operation (LCO) 3.0.4 was self-revealed when the licensee transitioned Unit 1 to Mode 3 with the turbine trip function of the Solid State Protection System (SSPS) disabled although the turbine trip function was required by TS LCO 3.3.2 to be operable in Mode 3. Upon identification, the licensee immediately manually tripped the turbine and restored the automatic turbine trip function. The licensee entered the issue into the corrective action program (CAP) and initiated actions to revise the mode change checklist and affected surveillance procedures.

The inspectors determined that the finding was of more than minor safety significance because it was associated with the Configuration Control aspect of the Initiating Events Cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions. The finding was Green because the manual turbine trip and main steam isolation functions were not affected by the finding. The inspectors determined that the finding had a cross-cutting aspect of Work Management in the areal of Human Performance (H.5) because the licensee failed to plan, control, and execute work activities such that nuclear safety

was the overriding priority. {Section 40A3.1}  
Inspection Report# : [2016001](#) (pdf)

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## Mitigating Systems

**Significance:** G Sep 30, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### **DOST Flood Barrier Door Left Open**

Green. A finding of very low safety significance and an associated NCV of 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures and Drawings," was self-revealed on September 14, 2016, when a station employee discovered that the flood barrier door for the Unit 1 Train B (1B) diesel oil storage tank (DOST) was open and unattended for three hours and six minutes. The watertight door was installed to protect the DOST fuel oil transfer pumps from the effects of a postulated failure of a circulating water expansion joint at the condenser water boxes in the turbine building, and the open door rendered the 1B diesel generator inoperable. An operator was dispatched to assess the door and, after finding no mechanical issue with the door, closed the door to restore operability to the 1B diesel generator. The issue was entered into the licensee's Corrective Action Program (CAP) as IR 02699674. The inspectors determined that the issue was more than minor because it was associated with the Configuration Control attribute of the Mitigating Systems Cornerstone and adversely impacted 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 close and dog the 1B DOST door impacted the availability of the 1B diesel generator during postulated events. The finding was determined to be of very low safety significance, or Green, in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Appendix A, "The Significance Determination Process (SDP) For Findings at Power," because the inspectors answered the Exhibit 2 – Mitigating Systems Screening Question B as "Yes." The inspectors determined that the finding involved the degradation of equipment specifically designed to mitigate a flooding event and used Exhibit 4 of the same Appendix to evaluate the significance. The inspectors determined that with the flood door open, this single condition during a turbine building flood event would degrade two trains of a multi-train system. Specifically, the turbine building flood would impact the diesel fuel transfer pumps for both Unit 1 emergency diesel generators. Therefore, a Detailed Risk Evaluation was performed by a Senior Risk Analyst who concluded that the change in core damage frequency (delta CDF) associated with the finding was  $4.6E-10$ /year and since the total estimated delta CDF was less than  $1.0E-7$ /year, the issue screened as having very low safety significance (i.e., Green) using IMC 0609, Appendix H, "Containment Integrity Significance Determination Process," for large early release frequency (LERF). The inspectors assigned a cross-cutting aspect in the Avoiding Complacency element of the Human Performance Area (IMC 0310 H.12) to this finding because an individual accessing the room through the doorway failed to challenge the door to ensure proper closure in a manner that would have revealed the door was not properly latched.

Inspection Report# : [2016003](#) (pdf)

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## Barrier Integrity

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## Emergency Preparedness

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### Occupational Radiation Safety

**Significance:**  Jun 30, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

#### **Failure to Comply With Radiation Work Permit Requirements Resulting In An Unplanned Dose Rate Alarm**

Green. A finding of very low safety significance and an associated Non-Cited Violation (NCV) of Technical Specification 5.4.1 was self-revealed when an engineer violated a radiation work permit by entering an area that was outside of the scope of the radiation work permit (RWP), which resulted in the engineer receiving an unplanned electronic dosimeter dose rate alarm. After the engineer received the unplanned dose rate alarm, he immediately exited the area and reported the event to the radiation protection staff. The licensee entered this issue into their CAP as IR 02655195.

The inspectors determined that the performance deficiency was more than minor because the finding impacted the Program and Process attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation.

Specifically, the engineer, by entering an area that he was not briefed to enter on the radiation work permit, removed a barrier that was intended to prevent workers from receiving unexpected dose. The finding was determined to be of very low safety significance in accordance with Inspection Manual Chapter (IMC) 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008. The violation was determined to be of very low safety significance (Green) because: (1) it did not involve as-low-as-reasonably-achievable (ALARA) planning or work controls; (2) there was no overexposure; (3) there was no substantial potential for an overexposure; and (4) the ability to assess dose was not compromised. The inspectors determined that the finding had a cross-cutting aspect in the Human Performance area of Challenging the Unknown [H.11] because the individual did not stop when faced with an uncertain condition. Specifically, risks were not evaluated and managed before proceeding. (Section 2RS1.6)

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

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### Public Radiation Safety

**Significance:**  Sep 30, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

#### **Failure to Properly Block and Brace a Radioactive Shipment for Transport**

Green. A finding of very low safety significance and an associated NCV of 10 CFR 71.5(a) and 49 CFR 171.1(b)(12) was self-revealed when the licensee failed to properly block and brace a Radioactive Waste (Radwaste) Shipment that was shipped to a waste processing facility for disposal. The failure to properly block and brace the Radwaste Shipment caused a breach of the shipping package while in transit to the waste processing facility. When the shipment breach was discovered at the waste processing facility, contamination surveys were immediately conducted and it was determined that no loss of content had occurred during transportation. The surveys also determined that radiation dose limits from the package were below NRC and Department of Transportation (DOT) limits. The waste processing facility notified the licensee of the breach during transport and the licensee entered the event into their CAP as IR

02665985.

The inspectors determined that the issue was more than minor because it was associated with the Program and Process attribute of the Public Radiation Safety Cornerstone and adversely impacted the cornerstone objective of ensuring adequate protection to public health and safety from exposure to radiation from routine civilian nuclear operations. Specifically, the breach of the transportation package by its content could lead to the inadvertent spread of radioactive contamination to the public domain if conditions had been slightly altered. The finding was determined to be of very low safety significance, or Green, in accordance with IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008, because the finding did not involve: (1) a radioactive shipment above radiation limits; (2) a certificate of compliance issue; (3) the failure to make emergency notifications; or (4) a low-level burial issue. A breach of the transportation package occurred during transit. However, the shipment contained less than a Type A quantity of material (LSA II shipment), and there was no loss of package contents or radioactive contamination. The inspectors assigned a cross-cutting aspect in the Resources element of the Human Performance Area (IMC 0310 H.1) to this finding due to inadequate procedures. (Section 2RS8.4)

Inspection Report# : [2016003](#) (*pdf*)

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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

Last modified : February 01, 2017