

## Clinton

### 3Q/2013 Plant Inspection Findings

---

#### Initiating Events

**Significance:** G Dec 31, 2012

Identified By: Self-Revealing

Item Type: FIN Finding

**FAILURE TO COMPLETE AN ADEQUATE EXTENT CONDITION REVIEW AND TO CORRECT A PREVIOUSLY IDENTIFIED DESIGN PROBLEM RESULTED IN A TRIP OF THE EMERGENCY RESERVE AUXILIARY TRANSFORMER**

A finding of very low safety significance was self-revealed when the emergency reserve auxiliary transformer (ERAT) tripped during troubleshooting activities to isolate a direct current system ground following heavy rainfall. The ERAT trip occurred due to the presence of a latent design error identified on seal-in relays in the ERAT's control circuitry and the licensee's failure to adequately evaluate and correct it during its extent of condition review of the problem after it was identified in September 2002. The licensee restored the ERAT to service and implemented a modification to correct the latent design problem. Because the ERAT is not safety related, no violation of regulatory requirements was identified.

The finding was of more than minor safety significance because it was sufficiently similar to several examples in Inspection Manual Chapter 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," wherein licensees failed to adequately correct conditions adverse to quality and the consequences had some safety impact. The performance deficiency was also associated with the Equipment Performance attribute and adversely affected the Initiating Events 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, when the ERAT tripped safety related 4160 volt bus 1A1, which had been powered by the ERAT, momentarily lost power. With the momentary loss of power several plant safety systems were affected including a loss of secondary containment differential pressure. The finding was a licensee performance deficiency of very low safety significance because it: (1) did not involve a loss-of-coolant accident initiator; (2) did not cause a reactor trip AND the loss of mitigation equipment; (3) did not involve the complete or partial loss of a support system that contributes to the likelihood of, or cause, an initiating event AND affect mitigation equipment; and (4) did not increase the frequency of a fire or internal flooding initiating event. While the finding did involve a partial loss of a support system (i.e., offsite power) that contributes to the likelihood of an initiating event, mitigation equipment was not adversely affected by the momentary loss of power. The inspectors concluded that because the licensee's missed opportunity to correct the latent design error occurred in 2002 and no other more recent opportunities reasonably existed to identify and correct the problem, this issue would not be reflective of current licensee performance and no cross-cutting aspect was identified.

Inspection Report# : [2012005](#) (*pdf*)

---

#### Mitigating Systems

**Significance:** G Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO FOLLOW PROCEDURE AND APPROPRIATELY DOCUMENT BASIS FOR IMMEDIATE OPERABILITY OF THE DIVISION 2 EMERGENCY DIESEL GENERATOR**

An NRC identified non-cited violation of 10CFR50, Appendix B, Criterion V, Instructions, Procedures and Drawings for the failure to follow procedure OP-AA-108-115, "Operability Determinations", Revision 11, and document the basis that a reasonable expectation of operability existed after an immediate operability determination. Specifically, after the control room received a report of a crack on the after cooler ducting of the Division 2 emergency diesel generator the licensee failed to document their basis that a reasonable expectation of operability existed for the Division 2 emergency diesel generator. The licensee documented this issue in the corrective action program as Action Request 015401540.

The inspectors determined that the licensee failing to follow the station procedure for operability determinations was a performance deficiency. Specifically, the licensee failed to follow the station procedure for operability determinations and appropriately document the decision and the basis that a reasonable expectation of operability existed for the Division 2 emergency diesel generator. The performance deficiency is more than minor because if immediate operability determination and either the basis that a reasonable expectation of operability exists or the declaration that the system, structure or component is inoperable is not appropriately documented it could lead to a more significant safety concern. Using Manual Chapter 0609, Attachment 4 "Initial Characterization of Findings," and Appendix A "The Significance Determination Process for Findings at Power" the finding was screened against the mitigating systems cornerstone and determined to be of very low safety significance (Green) because the finding was/did not: 1) a deficiency affecting the design or qualification of a mitigating structure, system or component, 2) represent a loss of system and/or function, 3) represent an actual loss of function of a single train for greater than its technical specification allowed outage time, 4) represent an actual loss of function of one or more non-technical specifications trains of equipment designated as high safety-significant for greater than 24 hours and 5) did not involve the loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding or severe weather event.

The finding was determined to have a cross-cutting aspect in the area of human performance, associated with the decision making component, in that the licensee decisions failed to demonstrate that nuclear safety is an overriding priority. Specifically, the licensee failed to use their systematic process, when faced with an unexpected plant condition of the Division 2 emergency diesel generator to ensure safety was maintained.. H.1(a).

Inspection Report# : [2013004](#) (*pdf*)

**Significance:** G Mar 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO PERFORM ADEQUATE MOV PREVENTATIVE MAINTENANCE RESULTED IN INOPERABLE RCIC SYSTEM**

A finding of very low safety significance with an associated Non-Cited Violation of 10 CFR 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings" was self-revealed when safety-related motor operated valve 1E51-F031, reactor core isolation cooling (RCIC) system suppression pool suction valve, failed to fully close during surveillance testing on October 29, 2012. The valve failure occurred due to the licensee's failure to establish an adequate procedure to perform preventive maintenance on it. Specifically, the maintenance procedure did not contain a requirement to stroke a motor operated valve during the performance of periodic stem lubrication activities. The licensee entered this issue into its corrective action program for evaluation and initiated corrective actions to revise the maintenance procedure.

The finding was of more than minor significance since it was associated with the Procedure Quality attribute and adversely affected the Mitigation Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the valve failure rendered the RCIC system inoperable. This finding is of very low safety significance because it: (1) was not a design or qualification deficiency; (2) did not represent an actual loss of function of a system; (3) did not

represent an actual loss of function of a single train or two separate trains for greater than its Technical Specification (TS) allowed outage time; (4) did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety significant; and (5) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors concluded that this finding affected the cross-cutting area of human performance since adequate licensee resources involving personnel and procedures did not support successful human performance. Specifically, the maintenance procedure was not appropriate to the circumstances because it did not contain adequate instructions to ensure that motor operated valve stems were adequately lubricated. (IMC 0310 H.2 (c))

Inspection Report# : [2013002](#) (*pdf*)

**Significance:** G Mar 31, 2013

Identified By: NRC

Item Type: FIN Finding

**FAILURE TO PERFORM ADEQUATE PAST OPERABILITY EVALUATION**

The inspectors identified a finding of very low safety significance associated with the licensee's failure to correctly evaluate the past operability of safety-related motor operator valve 1E51-F031, reactor core isolation cooling system suppression pool suction valve, which failed quarterly surveillance testing on October 29, 2012. No violation of regulatory requirements was identified. The licensee entered this issue into its corrective action program for evaluation and initiated corrective actions to revise the past operability evaluation.

The finding was of more than minor significance since the failure to correctly evaluate a degraded/nonconforming condition potentially affecting the operability of structures, systems, and components (SSC) required to be operable by Technical specification (TS) would become a more significant safety concern, if left uncorrected, because it could reasonably result in an unrecognized condition of an SSC failing to fulfill a safety-related function. The finding was a licensee performance deficiency of very low safety significance because it: (1) was not a design or qualification deficiency; (2) did not represent an actual loss of function of a system; (3) did not represent an actual loss of function of a single train or two separate trains for greater than its TS allowed outage time; (4) did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety significant; and (5) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors concluded that this finding affected the cross-cutting area of human performance. Specifically, the licensee failed to use conservative assumptions in decision making while evaluating past operability of the valve by assuming that the time of inoperability was the same as the time of discovery for a time dependent failure mechanism (i.e., hardened grease) since no firm evidence to support operability was obtained by testing. (IMC 0310 H.1(b))

Inspection Report# : [2013002](#) (*pdf*)

**Significance:** G Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO SATISFY 10 CFR 50.73 REPORTING REQUIREMENTS FOR A CONDITION PROHIBITED BY TECHNICAL SPECIFICATIONS.**

The inspectors identified a finding of very low safety significance (Green) with an associated Severity Level IV Non-Cited Violation of the NRC's reporting requirements in 10 CFR 50.73, "Licensee Event Report System." The licensee failed to submit a required Licensee Event Report (LER) within 60 days after the discovery of an event that was reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition which was prohibited by the plant's Technical Specifications (TS) and 10 CFR 50.73(a)(2)(v)(B) as a condition that could have prevented the fulfillment of a safety function. The condition involved an inoperable diesel generator (DG) for longer than the TS completion time for restoration. The licensee subsequently submitted the required LER.

Because this violation of the NRC's reporting requirements affected the NRC's ability to perform its regulatory

function, the inspectors evaluated the violation using the traditional enforcement process in accordance with the NRC Enforcement Policy and assessed the significance of the underlying issue using the Significance Determination Process. The finding was of more than minor significance because the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in the TS and the regulations in order to perform its regulatory function and, therefore if left uncorrected it could lead to a more significant safety concern. The inspectors previously determined that the underlying issue (i.e., the failure to correctly assembly a DG ventilation system damper that resulted in an inoperable DG) was a finding of very low safety significance during a detailed risk evaluation. Consistent with the guidance in Section 6.9, Paragraph d.9, of the NRC Enforcement Policy, the violation associated with this finding was determined to be a Severity Level IV Violation. This finding affected the cross-cutting area of human performance. Specifically, the licensee's decision making process while evaluating the reportability of the condition with respect to the reporting requirements in 10 CFR 50.73 was inadequate. IMC 0310 H.1(a)  
 Inspection Report# : [2012005](#) (*pdf*)

---

## Barrier Integrity

**Significance:** G Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **FAILURE TO PERFORM PREVENTIVE MAINTENANCE ON STANDBY GAS TREATMENT SYSTEM RELAY 0UAY-VG506D.**

A finding of very low safety significance with an associated Non-Cited Violation of Technical Specification (TS) 5.4.1.a. was self-revealed when the age-related failure of Standby Gas Treatment (VG) system relay 0UAY-VG506D caused the removal of VG Train A electric heater 0VG04AA from operation, an entry into TS 3.5.4.3 due to the inoperability of VG Train A, and an unplanned on-line plant risk condition increase from Green to Yellow. The relay failure occurred due to the licensee's failure to perform any replacement preventive maintenance on the component throughout the history of plant operation. During two separate independent reviews performed by the licensee on July 15, 2011, and on August 24, 2011, the licensee failed to correctly classify the component in accordance with its preventive maintenance procedure. This resulted in no replacement maintenance activity ever being performed for the relay and its eventual failure on August 22, 2012. The licensee initiated corrective actions to replace the relay and put in place the appropriate preventive maintenance actions.

The finding was of more than minor safety significance because it was sufficiently similar to several examples in Inspection Manual Chapter 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," wherein licensees failed to adequately implement procedural requirements and the consequences had some safety impact. The performance deficiency was also associated with the SSC [Systems, Structures, and Components] and Barrier Performance attribute and adversely affected the Barrier Integrity Cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the age-related failure of 0UAY-VG506D on August 22, 2012 rendered VG Train A inoperable and caused an unplanned increase in the plant's on-line risk condition from Green to Yellow. The finding was a licensee performance deficiency of very low safety significance because it only represented a degradation of the radiological barrier function provided for the Auxiliary Building and the Fuel Building and was not a complete loss of the barrier function provided by the VG system since VG Train B remained operable. This finding affected the cross-cutting area of human performance. Specifically, in the area of work control, the licensee did not appropriately coordinate work activities by incorporating actions to plan work activities to support longterm equipment reliability by scheduling maintenance as more preventive than reactive. (IMC 0310, H.3(b))

Inspection Report# : [2012005](#) (*pdf*)

---

## Emergency Preparedness

---

### Occupational Radiation Safety

**Significance:**  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO FOLLOW PROCEDURES RESULTED IN THE UNPLANNED INTAKE OF RADIOACTIVE MATERIAL BY FIVE WORKERS.**

A self-revealing finding of very low safety significance (Green) and associated Non-Cited Violation of Technical Specification 5.4.1.a for the failure to follow procedures associated with the Radiation Work Permit (RWP) on March 28, 2013. The issue resulted in the unplanned intake of radioactive material by five workers. RWP 10014553, "2013 RW HRA/LHRA," Revision 0, established the requirement for the usage of high efficiency particulate air vacuums during the cleanup of a legacy radioactive resin spill. The licensee replaced this cleanup method with manual resin removal during the cleanup contrary to the conditions set in the RWP. This is a performance deficiency, which was within the licensee's ability to foresee and should have been prevented. The issue was entered into the licensee's corrective action program as Action Request 01494203. The licensee completed actions to ensure worker compliance with radiation protection program procedures.

The performance deficiency was determined to be more than minor safety significance in accordance with Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," because it was associated with the program and process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, the workers received additional and unplanned dose from the intake of radioactive materials. The significance was determined in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." The inspectors determined the finding has very low safety significance (Green) because the finding did not involve: (1) As Low As Reasonably Achievable (ALARA) planning or work controls involving excessive occupational collective dose, (2) an overexposure, (3) a substantial potential for overexposure, or (4) compromised ability to assess dose. The primary cause of this finding was related to the cross-cutting aspect of human performance with the component of decision making. The licensee failed to use conservative assumptions in decision making and failed to adopt a requirement to demonstrate that the proposed action is safe in order to proceed. H. 1(b).

Inspection Report# : [2013003](#) (*pdf*)

**Significance:**  Mar 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

#### **INCOMPLETE ED DOSE RATE ALARM EVALUATION**

The inspectors identified a finding of very low safety significance with an associated Non-Cited Violation of 10 CFR 20.1501(a) for the failure to perform surveys to ensure compliance with 10 CFR 20.1201 shallow-dose equivalent (SDE) limits for five individuals during the fourth quarter 2011 due to contamination build-up on the workers' gloves. This issue was entered into the licensee's corrective action program as AR 01335298 and AR 01454976. Corrective actions include performing an apparent cause evaluation and performing dose assessments for the individuals involved.

The performance deficiency was determined to be of more than minor safety significance in accordance with IMC 0612, Appendix B, "Issue Screening," because it was associated with 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, in that not performing an adequate SDE assessment affected the licensee's ability to monitor, control, and limit radiation exposures. The inspectors also reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor issues," and did not find any similar examples. In accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspectors determined that the finding had very low safety significance because the finding did not involve: (1) ALARA planning and controls, (2) a radiological overexposure, (3) a substantial potential for an overexposure, or (4) a compromised ability to assess dose. The primary cause of this finding was related to the cross-cutting aspect of human performance with the component of work practices. The specific aspect was that the licensee ensures supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported (IMC 0310 H.4(c))

Inspection Report# : [2013002](#) (*pdf*)

---

## 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 : December 03, 2013