



Home > Nuclear Reactors > Operating Reactors > Reactor Oversight Process > Plant Summaries > Catawba 2 > Quarterly Plant Inspection Findings

## Catawba 2 – Quarterly Plant Inspection Findings

### 4Q/2017 – Plant Inspection Findings

On this page:

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness
- Occupational Radiation Safety
- Public Radiation Safety
- Security

#### Initiating Events

#### Mitigating Systems

**Significance:** **W** Jul 12, 2017

Identified By: NRC

Item Type: TE Traditional Enforcement w/o associated F

#### **Failure to adequately establish and adjust preventive maintenance for emergency diesel generator excitation system diodes.**

The inspectors identified an AV of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to adequately develop and adjust the preventive maintenance strategy for the emergency diesel generator (EDG) excitation system in accordance with AD-EG-ALL-1202, "Preventive Maintenance and Surveillance Testing Administration." The inspectors also identified an associated AV of Title 10 of the Code of Federal Regulations (10 CFR) Part 50 Appendix B, Criterion XVI, "Corrective Actions," for the failure to correct a condition adverse to quality associated with elevated operating temperatures of EDG excitation system diodes. This resulted in the failure of an EDG excitation system diode and overcurrent trip of the 2A emergency diesel output breaker during a surveillance test performed on April 11, 2017. The licensee entered this condition into their corrective action program as Condition Report 2116069. The 2A EDG was returned to service on April 14, 2017 following replacement of the excitation system diodes.

The failure to adequately develop and adjust preventive maintenance activities in accordance with AD-EG-ALL-1202, thus allowing a condition adverse to quality to remain uncorrected, was a performance deficiency. This performance deficiency was more than minor because it affected the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems and components that respond to initiating events to preclude undesirable consequences (i.e. core damage). Specifically, failure to adjust the preventive maintenance activities for the EDG excitation system by incorporating operating

experience, corrective maintenance history, and structures, systems, and components (SSC) performance history led to the failure of diode CR4 in the EDG excitation system and caused the 2A EDG output breaker to trip open on April 11, 2017. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, the inspectors determined that the issue affected the mitigating systems cornerstone. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," dated June 19, 2012, the inspectors determined that the issue required a detailed risk evaluation because the finding represents an actual loss of function of a single train for greater than its technical specification allowed outage time.

Inspection Report# : 2017013 (*pdf*)

Inspection Report# : 2017012 (*pdf*)

Inspection Report# : 2017011 (*pdf*)

## Barrier Integrity

**Significance:** G Feb 03, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Translate Design Requirements into Operating Procedures for NW System**

Green: The NRC identified a non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to translate the limiting high pressure design requirement of the containment valve injection water (NW) system surge chamber into station procedures. Specifically, the licensee failed to translate the NW surge chamber high pressure design limit of 85 psig from calculation CNC-1223.19-00-0004, "NW system setpoint calculation," Rev. 7, into procedure OP/1/A/6200/019, "Containment Valve Injection Water System," Rev. 36, to ensure the NW system could perform its intended safety function during a design basis accident. The licensee entered this issue into their corrective action program as action request 02096392, reviewed the issue for current and past operability, and issued an operations guide to limit the NW surge chamber pressures to 80 psig.

The performance deficiency was determined to be more than minor because it adversely affected the design control attribute of the barrier integrity cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the failure to translate the 85 psig NW surge chamber pressure limit into procedures resulted in exceeding the NW surge chamber high pressure limit, which could result in an inability of the safety related nuclear service water system to provide makeup water to the NW surge chamber and result in entrainment of nitrogen gas in the surge chamber outlet. The team determined the finding to be of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, and heat removal components, and the finding did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding was assigned a cross-cutting aspect of Evaluation in the Problem Identification and Resolution Area because the finding was indicative of present licensee performance, and the licensee did not thoroughly evaluate the issue identified in ARs 01912139 and 01912453 after the revision to the calculation was completed to ensure that the correct high pressure NW surge chamber design requirement would have been translated into procedures [P.2].

(Section 1R17)

Inspection Report# : 2017007 (*pdf*)

**Emergency Preparedness**  
**Occupational Radiation Safety**  
**Public Radiation Safety**  
**Security**

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

**Miscellaneous**

Current data as of : February 01, 2018

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