Saint Lucie 1
3Q/2014 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish a Reasonable Maintenance Effectiveness Demonstration for the ECCS Floor Drain Valve System
An NRC-identified non-cited violation (NCV) of 10 CFR 50.65(a)(2), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," resulted from the licensee's failure to establish a technically justifiable and reasonable maintenance effectiveness demonstration for the emergency core cooling system (ECCS) floor drain valve system. Corrective actions included a revision to the maintenance rule (MR) system function and the reliability performance criteria, the completion of a 3-year extent of condition review to identify all missed functional failures, entering the valve actuators into the licensee's air-operated valve program, and monitoring the performance of the Unit 1 ECCS floor drain valve system as required by 10 CFR 50.65(a)(1). This issue was entered into the licensee's corrective action program as action request 1936612.
The performance deficiency was more than minor because it involved degraded system performance which, if left uncorrected, could become a more significant safety concern. The inspectors evaluated the significance of the finding under the mitigating systems cornerstone using Table 2 of Attachment 4 (dated June 19, 2012) and Exhibit 2 of Appendix A (dated June 19, 2012) to Inspection Manual Chapter 0609, "Significance Determination Process," (dated June 2, 2011). The inspectors determined the finding was of very low safety significance (i.e., Green) because the exhibit criteria did not screen the finding to a detailed risk assessment. The inspectors concluded the finding was associated with the cross-cutting aspect of trending (P.4) in the problem identification and resolution area because the licensee had failed to utilize the corrective action program to associate and identify an adverse trend related to repeated system failures in the aggregate to identify common cause and programmatic issues.
Inspection Report# : 2014004 *(pdf)*

Significance: W Sep 24, 2014
Identified By: NRC
Item Type: VIO Violation
Failure to Implement Measures to Ensure the Watertight Integrity of the Unit 1 Reactor Auxiliary Building
Self-revealing apparent violations (AV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," and Criterion XVI, "Corrective Action," were identified for the failure to install internal flood barriers in conduits that penetrated the Unit 1 reactor auxiliary building (RAB) exterior wall at elevations below the design flood height; and the failure to identify those missing flood barriers during flooding walkdowns performed in response to the NRC's "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012. The licensee's failure to implement measures to ensure the watertight integrity of the Unit 1 RAB below the design basis flood elevation was a performance deficiency. The licensee installed internal

flood barriers in the conduits and entered the issues into the corrective action program as action request (AR) 1941159 and AR 1943185.

The performance deficiency was more than minor because it was associated with the protection against external factors attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events. Specifically, the failure to maintain the watertight integrity of the Unit 1 RAB resulted in a condition where a design basis external flood event would challenge the operability of safety-related equipment. The inspectors screened the finding using Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4 and Appendix A (June 19, 2012). The inspectors determined the finding was associated with the mitigating systems cornerstone and required a detailed risk evaluation because the performance deficiency affected more than one train of systems used to support the risk significant functions associated with external flood protection. Inspection Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," (April 12, 2012) was used to assess the significance. The analyst performed a bounding quantification of the risk then identified various qualitative factors that could affect the final values, either increasing or decreasing the preliminary significance determination. The dominant risk scenario was a postulated event where the plant is operating at power when a significant rainfall event occurs, a reactor trip occurs, the performance deficiency causes emergency core cooling system (ECCS) tunnel flooding, and the floor drain valves in the RAB that isolate the ECCS rooms during a flooding event fail to close allowing water to flow unobstructed and submerge all of the ECCS pumps. After 24 hours, the plant would not achieve a 'safe and stable' condition and core damage would normally be assumed because all reactor coolant system (RCS) injection capability was lost, unless some recovery action was successful. The analyst calculated a factor to apply which would represent the likelihood that the licensee could recover some RCS makeup capability after several days before core uncovery. The calculated overall risk ranged from 3E-6/year to 1E-5/year and the preliminary risk significance of the finding was determined to be low to moderate safety significance (i.e. White) when other qualitative factors were considered. The inspectors concluded that the finding was associated with the design margin aspect (H.6) of the human performance area because the licensee did not maintain external flood protection design margin by ensuring that penetrations in the Unit 1 RAB were waterproofed below the design basis flood elevation. (Section 4OA3.1)
Inspection Report# : 2014009 *(pdf)*
Inspection Report# : 2014010 *(pdf)*

Significance: G Jun 30, 2014
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to follow the nuclear design control procedure for auxiliary feedwater valves
. A self-revealing, non-cited violation (NCV) of Technical Specification (TS) 6.8.1, was identified which requires that written procedures be established, implemented, and maintained covering activities referenced in NRC Regulatory Guide 1.33, Revision 2, dated February 1978, including safety-related activities carried out during operation of the reactor plant. The licensee failed to comply with Quality Instruction ENG-QI 1.0, Nuclear Engineering Design Control, when an unauthorized modification was implemented during maintenance on two auxiliary feedwater (AFW) valves. Consequently, the unauthorized modification was the direct cause of the failure of one of the valve stems. Corrective actions included the proper installation of new stems in the valves.

The licensee's failure to comply with Quality Instruction ENG-QI 1.0, Nuclear Engineering Design Control, and modifying the AFW valve and plug assembly by drilling and pinning at a different location than what was specified on the maintenance assembly procedure was a performance deficiency. The performance deficiency was determined to have more than minor significance because if left uncorrected, the failure to comply with the engineering design control procedure to ensure adequate assembly of AFW valves could lead to a more significant safety concern. Specifically, failure of an AFW pump discharge valve could result in an inadequate steam generator heat sink during a design basis accident. Using Manual Chapter 0609.04, Significance Determination Process (SDP) Initial Characterization of Findings, Table 2, dated June 19, 2012, the finding was determined to affect the Mitigating

Systems Cornerstone. The finding occurred while the Unit was at power. Manual Chapter 0609 Appendix A, Significance Determination Process for Findings At-Power, Exhibit 2 - Mitigating Systems Screening Questions dated, June 19, 2012, was used to further evaluate this finding. The finding screened as Green because none of the logic questions under the cornerstone applied. The finding involved the cross-cutting area of Human Performance, in the aspect of Conservative Bias (H.14), in that, the licensee did not make a conservative decision to stop work when the maintenance procedure did not address installation of a used valve stem. Instead the licensee chose to move forward with the maintenance because the procedure did not specifically prohibit installation of a used stem. (Section 4OA2.4)
Inspection Report# : 2014003 *(pdf)*

Significance: G Feb 07, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Seismic Restraining Procedures on Ladders Located Near Safety-Related Equipment
A green NRC identified non-cited violation (NCV) of Technical Specification 6.8.1, Procedures and Programs, was identified which requires that written procedures be established, implemented, and maintained covering activities referenced in NRC Regulatory Guide 1.33, Revision 2, dated February 1978. The licensee's failure to comply with procedures to seismically restrain ladders was a performance deficiency. Specifically, the licensee's procedures for seismic restraint of ladders: MA-AA-100- 1008, Station Housekeeping and Material Control; QI-13-PSL, Housekeeping and Cleanliness Controls Methods St. Lucie Plant; ADM-04.02, Industrial Safety Program; and ADM-27.11, Scaffold Control, were not implemented as written with regard to ladders that were installed near safety-related equipment. The inspectors identified three examples of ladders not seismically restrained in accordance with the licensee's procedures. Immediate corrective actions included completing a site-wide walkdown of the safety-related systems to identify and bring into procedural compliance any ladders that were not seismically restrained. This issue is documented in the licensee's corrective action program as Action Request (AR) 1935979 and 1933112.

The performance deficiency was determined to be more than minor because if left uncorrected the failure to comply with station procedures to ensure adequate restraining of seismically controlled ladders could lead to a more significant safety concern. Specifically, seismically unrestrained ladders could impact safety-related equipment during a design basis seismic event. Using Manual Chapter 0609.04, Significance Determination Process Initial Characterization of Findings Table 2 dated June 19, 2012, the finding was determined to affect the Mitigating Systems Cornerstone. The inspectors evaluated the risk of this finding using Manual Chapter 0609 Appendix A, Significance Determination Process for Findings At-Power, Exhibit 2- Mitigating Systems Screening questions. The inspectors determined that the finding was of very low safety significance because it did not represent an actual loss of safety function. The finding involved the cross-cutting area Problem Identification and Resolution, in the component of Resolution. Specifically licensee failed to take effective corrective actions to address issues in a timely manner commensurate with their safety significance (P3). (Section 4OA2.a(3)(ii))
Inspection Report# : 2014007 *(pdf)*

Significance: G Dec 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Implement Appropriate Corrective Actions for AFW System Corrosion
The inspectors identified a Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action. Specifically, the licensee failed to identify localized corrosion on the discharge piping for the 1C auxiliary feedwater pump that exceeded the licensee's acceptance criteria for minimum pipe wall thickness. The licensee entered the issue into the corrective action program (CAP) as action request (AR) 1913575. Corrective actions included replacing the degraded sections of pipe and conducting analyses to verify past operability of the degraded piping.

The performance deficiency was more than minor because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, unmitigated corrosion of the AFW piping could result in through-wall leaks, affect structural integrity of the piping, and ultimately result in inoperability of the system. Using Table 2 of Manual Chapter 0609.04, Significance Determination Process (SDP) Initial Characterization of Findings dated June 19, 2012; the inspectors concluded the finding affected the mitigating systems cornerstone. The inspectors evaluated the finding using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, dated June 19, 2012. The finding was determined to be of very low safety significance (Green) since the AFW system remained operable and was able to perform its function. The inspectors determined the cause of this finding was associated with a cross cutting aspect of minimizing longstanding equipment issues in the resources component of the human performance area. Specifically, the licensee had not provided adequate resources to address longstanding Unit 1 AFW system corrosion issues [H.2(a)].
Inspection Report# : 2013005 *(pdf)*

Significance: G Oct 09, 2013
Identified By: NRC
Item Type: FIN Finding
Failure to Meet Training Program Standards on Job Performance Measures for the Annual Licensed Operator Requalification Operating Examination
The inspectors identified a finding associated with the licensee's failure to meet training program standards in the development of job performance measures (JPMs) for the licensed operator requalification annual operating tests. The inspectors identified five JPMs, which were administered as part of the 2013 annual operating examination, that were incorrectly designated as alternate path JPMs. Inspectors further identified that one of these JPMs only contained one critical step. A minimum of two critical steps are required by the licensee's program standard. Overall, five JPMs, out of a total sample size of 15 (33%), were determined to be inadequate. As part of their immediate corrective actions, the facility licensee entered the issue into the corrective action program as AR-01900809.

This performance deficiency (PD) was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the PD adversely affected the quality of operating tests for licensed operators, such that during the administration of the annual operating examination, operators were potentially not correctly evaluated. This impacted the licensee's ability to evaluate and ensure operator performance to assess and maintain the availability, reliability, and capability of mitigating systems. In accordance with Inspection Manual Chapter (IMC) 0609 Appendix I, the Licensed Operator Requalification Significance Determination Process, this finding was determined to be of very low safety significance (Green) because less than 40 percent of the reviewed JPMs were found to be inadequate. The cause of the finding was directly related to the cross-cutting aspect of personnel training and qualifications in the resources component of the cross-cutting area of Human Performance, in that, the licensee failed to ensure the quality of the operating tests used to evaluate the knowledge, skills, abilities, and training provided to operators to assure nuclear safety. [H.2(b)]
Inspection Report# : 2013008 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Dec 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Use Only NIOSH Certified Respiratory Protection Equipment
A self-revealing Green non-cited violation (NCV) of 10 CFR Part 20.1703(a) was identified for the use of respiratory protection equipment that had not been certified as safe by the National Institute for Occupational Safety and Health (NIOSH). The licensee's use of respiratory protection equipment in a radiologically controlled area that had not been tested and certified by NIOSH or that had not obtained prior authorization from the NRC to use respiratory equipment not certified by NIOSH was a performance deficiency. The licensee discontinued use of the respiratory protection equipment and the issue was entered into the licensee's corrective action program under action request (AR) 1719479.

The finding was more than minor because it was associated with the Occupational Radiation Safety cornerstone attribute of "Equipment and Instrumentation" and adversely affected the cornerstone objective of protecting worker health and safety from exposure to radiation. When using non-NIOSH approved respirators in a radiologically controlled area, the potential existed to put workers in a situation that may be more hazardous than the radiological dangers that the respirator is meant to protect against (e.g. loss of air flow). The finding was determined to be of very low safety significance (Green) because it was not related to As Low As Reasonably Achievable (ALARA) planning, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. A cross cutting aspect was not assigned because the performance characteristic was corrected and eliminated before the inspectors identified the issue and is therefore not reflective of present licensee performance.
Inspection Report# : 2013005 *(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 : November 26, 2014