Calvert Cliffs 1
2Q/2009 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Did Not Comply with Technical Specification Requirements While Starting Reactor Coolant Pumps
The inspectors identified an NCV of Technical Specifications (TS) 3.4.5, "RCS Loops – Mode 3," because Constellation did not comply with the required starting conditions for reactor coolant pumps (RCPs) during several plant startups on Unit 1. The inspectors identified a discrepancy between the RCP starting requirements described in the operating instructions (OI) and the RCP starting requirements listed in the TS for loop operability. Specifically, the OI did not provide operators with adequate procedural guidance to meet the Mode 3, 4, and 5 TS RCP starting requirements prior to starting RCPs. Constellation entered this issue into their corrective action program (CAP) for resolution. The immediate corrective actions included revising OI-1A, "Reactor Coolant System and Pump Operations," to ensure that the TS starting conditions are met prior to starting any RCPs.

This finding is more than minor because it is associated with the procedure quality attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, starting a RCP while not meeting the starting requirements could cause a pressure transient and lift a pressurizer PORV. The inspectors determined that the finding is of very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a cross-cutting aspect in the area of human performance because Constellation did not provide complete, accurate, and up-to-date procedures that were adequate to assure nuclear safety. Specifically, OI-1A included requirements that were contrary to the TS and led to the operators' failure to comply with the TS when starting RCPs (H.2.c per IMC 0305).

Inspection Report# : 2009002 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Test Control associated with the Safety-Related Auxiliary Feedwater Pump Room Emergency Ventilation System
The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for Units 1 and 2 because Constellation did not establish an adequate test program to assure that the auxiliary feedwater (AFW) pump room emergency ventilation system would perform satisfactorily in service. Specifically, the performance evaluations used to determine the equipment performance of the emergency ventilation system did not incorporate the requirements and acceptance limits contained in the Updated Final Safety Analysis Report (UFSAR). This resulted in Constellation not recognizing that the AFW pump room emergency ventilation system did not meet the design requirements stated in the UFSAR. Constellation entered this issue into their corrective action program (CAP) for resolution as CR-2008-002833. The immediate corrective action included performing an operability determination to verify the operability of the Unit 1 and 2 turbine driven auxiliary feedwater (TDAFW) pumps. The planned corrective action included the installation of larger ventilation fans to obtain the required flow rate and to create a preventive maintenance task to measure the airflow for each emergency ventilation fan.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affects the cornerstone objective to ensure the availability and reliability of the AFW system, which responds to initiating events to prevent undesirable consequences (i.e., core damage). Additionally, the finding is similar to a "not minor if" example in Appendix E of IMC 0612, example 3.i, in that the facility was not consistent with the UFSAR and required that an analysis be re-performed to ensure that accident analysis requirements were met. The inspectors determined that the finding is of very low safety significance because it is not a design or qualification deficiency, did not represent a loss of a safety function of a system or a single train greater than its Technical Specifications (TS) allowed outage time, and did not screen as potentially risk significant due to external events. There is no cross-cutting aspect identified for this finding because the inspectors determined that the performance deficiency is the result of a latent issue and Constellation did not have a reasonable opportunity to identify the problem.
Inspection Report# : 2009003 *(pdf)*

Significance: G Mar 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Did Not Follow MSIV Actuator System Procedure
A self-revealing NCV of TS 5.4.1.a, "Procedures," was identified because Constellation did not follow procedures for refilling the No. 11 main steam isolation valve (MSIV) actuator accumulator with nitrogen. On February 6, 2009, while lining up to refill the No. 11 MSIV actuator accumulator, operators removed a blank flange which caused nitrogen gas to be released. This resulted in the No. 11 MSIV being inoperable. Immediate corrective actions included reinstallation of the blank flange, refilling the nitrogen accumulator to the required pressure, and conducting a prompt investigation. Constellation entered this issue into their CAP for further evaluation.

The inspectors determined that this finding is more than minor because it is associated with the human performance attribute of the Mitigating System cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding is of very low safety significance because it is not a design or qualification deficiency, did not represent a loss of a safety function of a system or a single train greater than its TS allowed outage time, and did not screen as potentially risk significant due to external events. This finding has a cross-cutting aspect in the area of human performance because Constellation did not effectively communicate human error prevention techniques, such as holding an adequate pre-job brief and performing proper self and peer checking (H.4.a)

Inspection Report# : 2009002 *(pdf)*

Significance: G Dec 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Design Control Associated with the Auxiliary Feedwater Pump Room Temperature.
The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," because Constellation did not provide design control measures for verifying the adequacy of a design calculation used to determine the maximum initial room temperature for the auxiliary feedwater (AFW) pump room. Specifically, Constellation used non-conservative inputs and assumptions in the design calculation that resulted in Constellation not recognizing that the design basis accident (DBA) temperature limit could have been exceeded. The AFW pump room emergency ventilation system must be established prior to exceeding a specified maximum initial room temperature to ensure that the AFW pump room temperature would not exceed the design limit of 130°F. Constellation entered this issue into their corrective action program (CAP) for resolution. The immediate corrective actions included establishing compensatory requirements for initiating emergency ventilation and conducting a re-analysis of the design calculation. The planned corrective action includes a modification to install a new automatic starting emergency ventilation system.

This finding is more than minor because it is similar to example 3.j. in Appendix E of IMC 0612 in that the non-conservative inputs and assumptions resulted in a condition where it created reasonable doubt on the operability of the

turbine-driven AFW (TDAFW) pumps . The finding is associated with the design control attribute of the Mitigating Systems cornerstone and affects the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding is of very low safety significance (Green) because the finding is a design and qualification deficiency confirmed not to result in the loss of operability per "Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment." There is no crosscutting aspect associated with this finding.

Inspection Report# : 2008005 *(pdf)*

Significance: G Dec 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Untimely Corrective Actions Associated with 480 Volt Power Supply Disconnects.
A self-revealing NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified because Constellation did not take timely corrective actions following the identification of degraded 480 volt power supply handswitch disconnects. This led to the failure of the Unit 1 No. 13 component cooling (CC) pump to start during performance of a surveillance test. The inspectors noted that Constellation had previously identified handswitch disconnects failures in 2006 and 2007. Immediate corrective action included replacing the handswitch disconnect for the 13 CC pump, conducting an extent of condition review, and entering this condition into their CAP.

The finding is more than minor because it is 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. The inspectors determined that the finding was of very low safety significance because the finding does not represent the loss of system safety function, does not represent actual loss of safety function of a single train for greater than its technical specification allowed outage time, and does not screen as potentially risk significant due to external events. The finding has a cross-cutting aspect in the area of problem identification and resolution because Constellation did not take appropriate corrective actions to address safety issues associated with handswitch disconnects in a timely manner commensurate with their safety significance and complexity (P.1.d per IMC 0305).

Inspection Report# : 2008005 *(pdf)*

Significance: G Sep 29, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to identify and correct a degraded 12 CCHX SW outlet valve positioner in a timely manner.
The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," because Constellation did not promptly identify and correct a condition adverse to quality (CAQ) related to the Unit 1 No. 12 component cooling (CC) heat exchanger (HX) saltwater (SW) outlet control valve (1-CV-5208). Specifically, Constellation did not promptly identify and correct a degraded condition associated with the valve's positioner when 1-CV-5208 did not respond as expected during SW flow verifications on May 13, 2008. Consequently, on May 21, 2008, operators declared the valve inoperable because the valve went from full shut to full open with only 25 percent indicated on the controller. The valve responded erratically because the spindle for the valve's positioner corroded and would not rotate to control the position of the valve. The corrosion mechanism was due to SW leaking from the valve packing to the actuator housing and onto the positioner. Constellation entered this issue into their corrective action program (CAP) for resolution as IRE-031-916. The immediate corrective actions following the May 21, 2008 event included the removal, inspection, and refurbishment of the positioner. The planned corrective action includes a modification to prevent SW from leaking outside the actuator housing and to perform preventive maintenance activities to detect degradation of the SW control valve positioners.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating System cornerstone and affects the cornerstone objective to ensure the availability, reliability, and capability of systems (i.e. component heat removal) that respond to initiating events to prevent undesirable consequences. The

inspectors evaluated the significance of this finding using Phase 2 and 3 analyses and determined that the finding is of very low safety significance (Green). This finding has a cross-cutting aspect in the area of problem identification and resolution because Constellation did not thoroughly evaluate SW flow control valve issues.
Inspection Report# : 2008004 *(pdf)*

Significance: G Sep 29, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Establish and Maintain Adequate Procedures for 4 kV Circuit Breaker Maintenance
A self-revealing, NCV of Technical Specification (TS) 5.4.1.a, “Procedures,” was identified because Constellation did not adequately establish and maintain electrical maintenance procedures for 4 kV circuit breakers such that the procedures incorporated torque values and verification steps to ensure the adjustment setscrew for the trip armature was properly tightened. During a surveillance test, on June 21, 2008, the adjustment setscrew backed out which prevented the 13 SRW pump breaker from opening. Constellation entered this issue into their CAP for resolution as IRE-032-517. The immediate corrective actions following the event included the replacement of the locking setscrew and trip coil. The planned corrective actions included the revision of maintenance orders and procedures to ensure that technicians perform peer verifications and check the tightness of the adjustment setscrew following maintenance activities.

This finding is more than minor because it is associated with the procedure quality attribute of the Mitigating System cornerstone and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance because it is not a design or qualification deficiency, did not represent a loss of a safety function of a system or a single Train greater than its TS allowed outage time, and did not screen as potentially risk significant due to external events. This finding has a cross-cutting aspect in the area of problem identification and resolution because Constellation did not implement and institutionalize operating experience (OE), including internal and external OE to change station processes, procedures, and training programs when similar issues of internal and external events occurred on 4 kV circuit breakers that involved inadequate maintenance procedures.
Inspection Report# : 2008004 *(pdf)*

Barrier Integrity

Emergency Preparedness

Significance: W Jan 14, 2009
Identified By: NRC
Item Type: VIO Violation
Failure to Maintain Emergency Plans
Constellation identified a violation associated with the failure to meet emergency preparedness planning standard 10 CFR 50.47(b)(4). For the period of August 31, 2005, until April 10, 2008, the emergency action level (EAL) table’s fission product barrier matrix contained an inaccurate threshold associated with identifying the potential loss of the containment barrier. The error was not identified by Constellation prior to implementation of the revised EAL table. Constellation evaluated this condition and took prompt actions to correct the inaccurate EAL.

The finding was more than minor because it was associated with the procedure quality (EAL changes) attribute of the Emergency Preparedness cornerstone and affected the associated cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding is associated with risk significant planning standard 10 CFR 50.47(b)(4) and 10 CFR 50 Appendix E, IV.B, "Assessment Actions." The NRC determined that the finding is preliminarily White, a finding with

low to moderate safety significance, that may require additional NRC inspection. Using Emergency Preparedness Significance Determination Process, Inspection Manual Chapter (IMC) 0609, Appendix B, Sheet 1, “Failure to Comply,” the finding was determined to be a risk significant planning standard (RSPS) problem and an RSPS degraded function (White). Additionally, IMC 0609, Appendix B contains an example of Loss of RSPS Function for 10 CFR 50.47 (b)(4); more than one Alert, or any Site Area Emergency would not be declared that should be declared, resulting in a White finding. There is no crosscutting aspect associated with this finding since it is not reflective of current licensee performance.

Inspection Report# : 2008502 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

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