



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I**
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

February 7, 2013

Mr. George H. Gellrich, Vice President
Calvert Cliffs Nuclear Power Plant, LLC
Constellation Energy Nuclear Group, LLC
1650 Calvert Cliffs Parkway
Lusby, Maryland 20657-4702

**SUBJECT: CALVERT CLIFFS NUCLEAR GENERATING STATION – NRC INTEGRATED
INSPECTION REPORT 05000317/2012005 AND 05000318/2012005**

Dear Mr. Gellrich:

On December 31, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Calvert Cliffs Nuclear Power Plant (CCNPP), Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on January 25, 2013, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one self-revealing finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance, and because it is entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCV) consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspectors at Calvert Cliffs. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I; and the NRC Resident Inspectors at Calvert Cliffs.

In accordance with Title 10 of the *Code of Federal Regulations*, Part 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available

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Sincerely,

/RA/

Glenn T. Dentel, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket Nos.: 50-317, 50-318
License Nos.: DPR-53, DPR-69

Enclosure: Inspection Report 05000317/2012005 and 05000318/2012005
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.: 50-317, 50-318

License Nos.: DPR-53, DPR-69

Report No.: 05000317/2012005 and 05000318/2012005

Licensee: Constellation Energy Nuclear Group, LLC

Facility: Calvert Cliffs Nuclear Power Plant, Units 1 and 2

Location: Lusby, MD

Dates: October 1, 2012 through December 31, 2012

Inspectors: S. Kennedy, Senior Resident Inspector
E. Torres, Resident Inspector
R. Barkley, Senior Project Engineer
R. Rolph, Health Physicist
J. Laughlin, Emergency Preparedness Inspectors, NSIR
J. Caruso, Senior Operations Engineer

Approved by: Glenn T. Dentel, Chief
Reactor Projects Branch 1
Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000317/2012005, 05000318/2012005; 10/1/2012 – 12/31/2012; Calvert Cliffs Nuclear Power Plant (CCNPP), Units 1 and 2: Follow up of Events and Notices of Enforcement Discretion.

The report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. One Green finding, which was a non-cited violation (NCV), was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). The cross-cutting aspect for the finding was determined using IMC 0310, "Components Within the Cross-Cutting Areas." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Cornerstone: Initiating Events

- Green: A self-revealing NCV of technical specification (TS) 3.4.13, "Reactor Coolant System (RCS) Operational LEAKAGE," was identified because Constellation failed to restore the RCS to as-designed configuration following replacement of the 11A reactor coolant pump (RCP) differential pressure transmitter isolation valve in 1998, which resulted in operating with RCS pressure boundary leakage, which is prohibited by TS. Specifically, a design required vertical support was missing on the RCP high pressure differential transmitter tubing which created a high cyclic fatigue vulnerability, eventual weld failure at the tube to pipe adapter, and RCS pressure boundary leakage. RCS pressure boundary leakage was first identified in June 2012, due to an increasing trend in RCS leak rate while the plant was operating at power. Immediate corrective actions included entering this issue into the corrective action program (CAP), replacing the tube to pipe adapter, and installing the missing vertical tubing support. Planned corrective actions include establishing a small bore piping inspection program and conducting walkdowns of Unit 1 and Unit 2 RCP differential pressure transmitter sensing lines and similar sensing lines in other systems.

The finding is more than minor because it is associated with the design control 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, the failure to restore the system to as-designed configuration resulted in a RCS pressure boundary leak. The inspectors evaluated the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at Power," and determined the finding is of very low safety significance (Green) because the performance deficiency, after a reasonable assessment of degradation, could not result in exceeding the RCS leak rate for a small loss of coolant accident (LOCA) and could not likely affect other systems used to mitigate a LOCA, resulting in a total loss of their function.

The finding does not have a cross-cutting aspect since the failure to restore the as-designed configuration is not indicative of current licensee performance. Constellation's current work order planning procedure requires the planner to translate engineering design documents into maintenance work orders while maintaining the design basis of the plant per the configuration program. (Section 4OA3)

Other Findings

None

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent power. On October 4, 2012, operators reduced power to 95 percent to perform main condenser waterbox cleaning. Operators returned the unit to 100 percent power on October 6. On November 26, operators reduced power to 45 percent to perform inductance testing on control element assembly (CEA) 37. The results of the testing revealed a degraded coil for the CEA upper gripper. Operators shut down the unit on November 27 to replace the coil stack of CEA 37. Operators returned the unit to 100 percent power on December 2. The unit remained at or near 100 percent for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent power. On December 15, operators reduced power to 83 percent to conduct main turbine valve testing. Operators returned the unit to 100 percent power on December 17. The unit remained at or near 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – three samples)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of Constellation's readiness for the onset of seasonal cold temperatures. The review focused on the refueling water tanks and the emergency diesel generator (EDG) rooms. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), TS, control room logs, and the CAP to determine what temperatures or other seasonal weather could challenge these systems, and to ensure that Constellation personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including Constellation's seasonal weather preparation procedure, and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during hot weather conditions. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

.2 Evaluate Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

The inspectors reviewed the adverse weather preparations and mitigating strategies for impending adverse weather conditions associated with Hurricane Sandy from October 26 – 29, 2012. This review included an assessment of what the predicted conditions were and of the actions taken by site personnel. The inspectors verified that the operator actions specified in the associated procedures maintained readiness of essential equipment and systems to minimize and mitigate weather induced initiating events.

b. Findings

No findings were identified

.3 External Flooding

a. Inspection Scope

During the week of September 3, 2012, the inspectors performed an inspection of the external flood protection measures for Calvert Cliffs Units 1 and 2. The inspectors reviewed the UFSAR, Chapters 2.5 and 2.8, which depicted the design flood levels and protection areas containing safety-related equipment to identify areas that may be affected by external flooding. The inspectors conducted a general site walkdown of all external areas of the plant, including the intake structure and the auxiliary building exterior wall to ensure that Constellation erected flood protection measures in accordance with design specifications.

b. Findings

No findings were identified

1R04 Equipment Alignment

Partial Walkdowns (71111.04Q – three samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- No.11 component cooling (CC) heat exchanger during No.12 CC heat exchanger maintenance on October 9, 2012
- No.11 containment spray (CS) header during No.12 shutdown cooling heat exchanger maintenance on October 9, 2012
- No.11 auxiliary feedwater (AFW) pump during No.12 AFW pump maintenance on December 6, 2012

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed

applicable procedures, system diagrams, the UFSAR, TSs, condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether Constellation staff had properly identified equipment issues and entered them into the CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection

Quarterly Inspection (71111.05Q – two samples)

a. Inspection Scope

The inspectors conducted a tour of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Constellation controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in Constellation's fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Unit 1 relay room, fire area 16, room 306 on October 17, 2012
- Unit 2 relay room, fire area 17, room 302 on October 17, 2012

b. Findings

No findings were identified.

1R07 Heat Sink Performance (711111.07A – one sample)

a. Inspection Scope

The inspectors reviewed the No.11A service water (SRW) heat exchanger to determine its readiness and availability to perform its safety function. The inspectors reviewed the design basis for the component and verified Constellation's commitments to NRC Generic Letter 89-13. The inspectors reviewed the results of previous inspections of the No.11A SRW heat exchanger. The inspectors discussed the results of the most recent inspection with engineering staff and reviewed pictures of the as-found and as-left conditions. The inspectors verified that Constellation initiated appropriate corrective actions for identified deficiencies. The inspectors also verified that the number of tubes plugged within the heat exchanger did not exceed the maximum amount allowed.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11 – three samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on November 20, 2012, which included a loss of condenser vacuum, CC leak in containment, and reactor manual trip from full power. The inspectors evaluated operator performance during the simulated events and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the TS action statements entered by the shift technical advisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed and reviewed various activities conducted in the main control room, including: Unit 1 reactor shutdown to replace CEA 37 coil stack on November 27, 2012; and Unit 1 reactor start up on December 1, 2012. Additionally, the inspectors observed procedure use and adherence, crew communications, and coordination of activities between work groups to verify that established expectations and standards were met.

b. Findings

No findings were identified.

.3 Licensed Operator Requalification

a. Inspection Scope

On December 17, 2012, the results of the annual operating tests and the written examination for 2012 were reviewed to determine if pass/fail rates were consistent with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)." The review verified the following:

- Individual pass rate on the dynamic simulator test was greater than 80 percent (Pass rate was 84.9 percent)
- Individual pass rate on the job performance measures of the operating examination was greater than 80 percent (Pass rate was 97.7 percent)
- Individual pass rate on the written examination was greater than 80 percent (N/A - Biennial written examination was not administered this year)
- More than 80 percent of the individuals passed all portions of the examination. (82.6 percent of the individuals passed all portions of the operating examination)
- Crew pass rate was greater than 80 percent (Pass rate was 90 percent)
- The pass rate on re-examinations (individual and crew) was greater than 90% (Pass rate was 100 percent)

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – two samples)

a. Inspection Scope

The inspectors reviewed the sample listed below to assess the effectiveness of maintenance activities on systems, structures, and components (SSCs) performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance work orders, and maintenance rule basis documents to ensure that Constellation was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with Title 10 *Code of Federal Regulations* (CFR) Part 50.65 and verified that the (a)(2) performance criteria established by Constellation staff was reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that Constellation staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- Walkdown of maintenance rule structures on November 14, 2012
- Saltwater (SW) pumps No.11 and No. 21 radial bearing failures on December 3, 2012

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – two samples)a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that Constellation performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that Constellation personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When Constellation performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Planned maintenance on No.12 CC heat exchanger, No.12 shutdown cooling heat exchanger, and No.12 CS header on October 9, 2012
- Planned maintenance on 1B EDG and No.12 SW air compressor on October 15, 2012

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – three samples)a. Inspection Scope

The inspectors reviewed operability determinations (ODs) for the following degraded or non-conforming conditions:

- No.11 emergency core cooling system air cooler SW outlet valve had indications of binding mechanically in the open direction (CR-2012-009648)
- 186 lockout relay for No. 21 4 kilovolt (kV) bus alternate feeder breaker degraded timing (CR-2012-009073)
- 27' switchgear room rolling door stuck open for 14 minutes (CR-2012-008973)

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the ODs to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to Constellation's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as

intended and were properly controlled by Constellation. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – four samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests (PMTs) for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- No. 11 SW pump radial bearing failure PMT on October 17, 2012
- 1B EDG periodic inspection on October 19, 2012
- No. 21 SW pump radial bearing replacement on November 6, 2012
- No. 21 CS pump thrust bearing replacement on December 16, 2012

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – one sample)

a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk plan for the Unit 1 CEA 37 coil stack replacement forced outage, which was conducted November 27 through December 1, 2012. The inspectors reviewed Constellation's development and implementation of outage plans and schedules to verify that risk, industry experience, previous site-specific problems, and defense-in-depth were considered. During the outage, the inspectors observed portions of the shutdown and cooldown processes and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in-depth, commensurate with the outage plan for the key safety functions and compliance with the applicable TSs when taking equipment out of service
- Implementation of clearance activities and confirmation that tags were properly hung and that equipment was appropriately configured to safely support the associated work or testing
- Status and configuration of electrical systems and switchyard activities to ensure that TSs were met

- Monitoring of decay heat removal operations
- Activities that could affect reactivity
- Repair activities
- Reactor and plant startup

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – three samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and Constellation procedural requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- BAT-037, 1A EDG battery service test on May 24, 2010
- STPO-073C-1, No.12 CC pump quarterly test on September 17 & 21, 2012 (In-service testing)
- STPO-08A-1, Test of 1A EDG and 11 4kV bus loss of coolant sequencer on October 14, 2012

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – one sample)

a. Inspection Scope

The NRC Nuclear Security and Incident Response headquarters staff performed an in-office review of the latest revisions of various Emergency Response Plan Implementing Procedures and the Emergency Plan located under Agency Wide Documents Access Management System (ADAMS) accession number ML123200097 as listed in the Attachment.

The licensee determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and

did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06 – one sample)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on November 20, 2012, which required emergency plan implementation by an operations crew. Constellation planned for this evolution to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that Constellation evaluators noted the same issues and entered them into the CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01 – one sample)

During December 5-6, 2012, the inspectors reviewed and assessed Constellation's performance in assessing the radiological hazards and exposure control in the workplace.

The inspectors used the requirements in 10 CFR Part 20 and guidance in Regulatory Guide 8.38, Control of Access to High and Very High Radiation Areas for Nuclear Plants, TS, and procedures required by TS as criteria for determining compliance.

a. Inspection Scope

Inspection Planning

The inspectors reviewed 2012 Constellation performance indicators for the occupational exposure cornerstone for Calvert Cliffs.

Radiological Hazard Assessment

The inspectors conducted walkdowns and independent radiation measurements in the facility, including radioactive waste processing, storage, and handling areas to evaluate material and radiological conditions.

Radiological Hazards Control and Work Coverage

The inspectors evaluated ambient radiological conditions and performed independent radiation measurements during walkdowns of the facility. The inspectors assessed whether the conditions were consistent with applicable posted surveys, radiation work permits, and associated worker briefings.

The inspectors assessed whether radiation monitoring devices were placed on the individual's body consistent with Constellation procedures. The inspectors assessed whether the dosimeter was placed in the location of highest expected dose or that Constellation properly implemented an NRC-approved method of determining effective dose equivalent.

The inspectors examined the physical and programmatic controls for highly activated or contaminated materials stored within spent fuel and other storage pools. The inspectors assessed whether appropriate controls were in place to preclude inadvertent removal of these materials from the pool.

The inspectors examined the posting and physical controls for selected high radiation areas, locked high radiation areas, and very high radiation areas to verify conformance with the occupational performance indicator.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Initiating Events (six samples)

a. Inspection Scope

The inspectors sampled Constellation's submittals for the following Unit 1 and Unit 2 performance indicators (PIs) for the period of October 2011 through September 2012: (1) Unplanned Power Changes Per 7,000 Hours; (2) Unplanned Scrams; and (3) Unplanned Scrams with Complications. To determine the accuracy of the PI data reported during those periods, inspectors used definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 10 CFR 50.73." The inspectors reviewed Unit 1 and 2 power history charts, NRC inspection reports, the NRC public website, and the Constellation's performance indicator reporting data forms to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 Occupational Exposure Control Effectiveness (one sample)

a. Inspection Scope

During December 5-6, 2012, the inspectors sampled licensee submittals for the occupational radiological occurrences PI for the period from the first quarter 2012 through fourth quarter 2012. The inspectors used PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's assessment of the PI for occupational radiation safety to determine if the related data was adequately assessed and reported.

To assess the adequacy of the licensee's PI data collection and analyses, the inspectors discussed with radiation protection staff, the scope and breadth of its data review and the results of those reviews. The inspectors independently reviewed electronic personal dosimetry accumulated dose alarms, dose reports, and dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized PI occurrences. The inspectors also conducted walkdowns of numerous locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – two samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that Constellation entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended CR screening meetings.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by Inspection Procedure 71152, "Problem Identification and Resolution," to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely-related issues that may have been documented by Constellation outside of the CAP, such as trend reports, performance indicators, major equipment problem lists, system health reports, maintenance rule assessments, and maintenance or CAP backlogs. The inspectors also reviewed Constellation's CAP database for the third and fourth quarters of 2012 to assess CRs written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRC's daily CR review (Section 4OA2.1). The inspectors reviewed Constellation quarterly trend report for the second and third quarters of 2012, conducted under CNG-CA-1.01-1007, "Performance Improvement Program Trending and Analysis," to verify that Constellation personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

In general, Constellation identified trends and appropriately addressed the trends within their CAP. The inspectors evaluated a sample of departments that are required to provide input into the quarterly trend reports, which included maintenance and operations. This review included a sample of issues and events that occurred over the course of the past two quarters to objectively determine whether issues either were appropriately considered or ruled as emerging or adverse trends, and in some cases, verified the appropriate disposition of resolved trends. The inspectors verified that these issues were addressed within the scope of the CAP, or through department review and documented in the quarterly trend report for overall assessment. No trends were noted that indicated a potentially safety significant issue. Examples of trends identified by Constellation were trends in the areas of human performance for less than adequate non-licensed operator walkdowns and in the area of work order backlog for significant preventive maintenance work orders. For both of these identified trends, the licensee has established corrective actions to mitigate and eliminate these adverse trends.

.3 Annual Sample: Review of the Operator Workaround Program

a. Inspection Scope

The inspectors reviewed the cumulative effects of the existing operator workarounds, operator burdens, existing operator aids and disabled alarms, and open main control room deficiencies to identify any effect on emergency operating procedure operator actions, and any impact on possible initiating events and mitigating systems. The inspectors evaluated whether station personnel had identified, assessed, and reviewed operator workarounds as specified in Constellation procedure NO-1-123, Managing Operator Impacts. The inspectors reviewed Constellation's process to identify, prioritize and resolve main control room distractions to minimize operator burdens. The inspectors reviewed the system used to track these operator workarounds and recent Constellation

self assessments of the program. The inspectors also toured the control room and discussed the current operator workarounds with the operators to ensure the items were being addressed on a schedule consistent with their relative safety significance.

b. Findings

No findings were identified.

The inspectors determined that operator work-arounds were classified, tracked, and assessed in accordance with Constellation's procedures.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153 – one sample)

.1 (Closed) Licensee Event Report (LER) 05000317/2012-002-00, Reactor Coolant Pressure Boundary Leakage Due to Tubing High Cyclic Fatigue

a. Inspection Scope

On July 17, 2012, Constellation identified that RCS pressure boundary leakage existed on Unit 1 11A RCP differential pressure transmitter tubing. Constellation determined that the source of the leak was a crack in the tubing side weld of the pipe to tube adapter. The cause of the leak was high cyclic fatigue. The tubing was not connected to the vertical support which allowed vibration induced cyclic fatigue to exist. Corrective actions included replacement of the adapter, the affected portion of the tubing, and the connection of a vertical support. Constellation inspected similar welds on the other Unit 1 RCPs differential pressure transmitter tubing runs with no issues identified. The inspectors reviewed the LER for accuracy as well as Constellation's evaluation of the cause of the RCS leakage, the adequacy of proposed and completed corrective actions, and the appropriateness of the extent-of-condition review.

b. Findings

Introduction: A self-revealing NCV of TS 3.4.13, "RCS Operational LEAKAGE," was identified because Constellation failed to restore the RCS to as-designed configuration following replacement of the 11A RCP differential pressure transmitter isolation valve in 1998, which resulted in operating with RCS pressure boundary leakage which is prohibited by TS. Specifically, a design required vertical support was missing on the RCP high pressure differential transmitter tubing which created a high cyclic fatigue vulnerability, eventual weld failure at the tube to pipe adapter, and RCS pressure boundary leakage.

Description: Operators identified indication of a possible RCS leak in June 2012 due to an increasing trend of the daily calculated RCS gross leak rate. For the period between June 12 through June 23, leak rates rose from 0.05 gallons per minute (gpm) to 0.13 gpm. This increasing trend met the site's operating instruction criteria to take specific actions to identify the source of the leak. In support of this investigation, several containment entries were made to identify the source of the leak. On July 17, 2012, a containment entry was made and RCS pressure boundary leakage was determined to exist on Unit 1 11A RCP differential pressure transmitter tubing. Operators commenced a TS required shutdown. With reactor power at 10 percent, a containment entry was made to isolate the leak. Concluding that the leak was isolated, operators returned the

unit to 100 percent power. Unit 1 leak rate data was monitored for the next several days. Constellation determined that conditions did not improve as expected and an additional containment entry was made on July 21, 2012, which identified that reactor coolant system pressure boundary leakage existed past the previously shut isolation valves. Operators conducted a TS required shutdown of Unit 1 to Mode 5. The source of the leak was a crack in the tubing side weld of the pipe to tube adapter. The human performance issues that contributed to operating between July 17 and July 21 with pressure boundary leakage contrary to TS 3.4.13.B, RCS Operational Leakage, were discussed in NRC inspection report 2011005, NCV-05000317/318/2012004-03. A further review was conducted, in part, to determine if there was any performance deficiencies associated with the cause of the leak.

Constellation determined the cause of the leak to be that a designed required vertical support was missing on the RCP high pressure differential transmitter tubing which created a high cyclic fatigue vulnerability resulting in weld failure at the tube to pipe adapter. The inspectors reviewed the root cause analysis and concluded that this issue was within Constellation's ability to foresee and correct and should have been prevented. The most recent and reasonable opportunity occurred in 1998, when Constellation conducted a like for like replacement of 1HVRC-141 (11A RCP differential pressure transmitter isolation valve) under work order C119970966 to address a failed valve diaphragm. This activity required disassembly and reassembly of the sensing line. However, the work package did not have instructions to restore the equipment to as-designed configuration. In addition, the work order did not contain the tubing drawing so personnel did not have the opportunity to question the missing Y-Stop support. The inspectors noted that there were several other opportunities to identify the missing adapter through periodic system manager walkdowns, operators' rounds, and work activities in the vicinity of the incomplete support. However, the inspectors concluded that due to the various incomplete supports in the areas that were retired in place, an error trap existed such that personnel could assume that the incomplete support was among the retired components.

Immediate corrective actions included entering this issue into the CAP, replacing the tube to pipe adapter, and installing the missing vertical tubing support. Planned corrective actions include establishing a small bore piping inspection program and conducting walkdowns of Unit 1 and Unit 2 RCP differential pressure transmitter sensing lines and similar sensing lines in other systems.

Analysis: The inspectors determined that Constellation's failure to restore the RCS to as-designed configuration following replacement of 11A RCP differential pressure transmitter isolation valve in 1998, which resulted in operating with RCS pressure boundary leakage for a period of time prohibited by TS, was a performance deficiency that was within Constellation's ability to foresee and correct, and should have been prevented. The finding is more than minor because it is associated with the design control 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, the failure to restore the system to as-designed resulted in a RCS pressure boundary leak. The inspectors evaluated the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at Power," and determined the finding is of very low safety significance (Green) because the performance deficiency, after a reasonable assessment of degradation, could not result in exceeding the RCS leak rate

for a small LOCA and could not likely affect other systems used to mitigate a LOCA resulting in a total loss of their function.

The finding does not have a cross-cutting aspect since the failure to restore the as-designed configuration is not indicative of current licensee performance. Constellation's current work order planning procedure requires the planner to translate engineering design documents into maintenance work orders while maintaining the design basis of the plant per the configuration program.

Enforcement: TS 3.4.13, "RCS Operational LEAKAGE," states, in part, that RCS operational leakage shall be limited to no pressure boundary leakage. If RCS pressure boundary leakage exist, the licensee is required to be in Mode 3 within six hours and Mode 5 within 36 hours. Contrary to the above, from at least June 12, 2012, until July 17, 2012, Unit 1 operated in Mode 1 with RCS pressure boundary leakage. The pressure boundary leakage was a result of Constellation's failure to restore the RCS to as-designed configuration following replacement of 11A RCP differential pressure transmitter isolation valve in 1998. Immediate corrective actions included entering this issue into the CAP, replacing the tube to pipe adapter, and installing the missing vertical tubing support. Planned corrective actions include establishing a small bore piping inspection program and conducting walkdowns of Unit 1 and Unit 2 RCP differential pressure transmitter sensing lines and similar sensing lines in other systems. Because this violation was of very low safety significance (Green) and was entered into Constellation's CAP (CR-2012-007012), the issue is being treated as an NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy. **(NCV-05000317/2012005-01: Inadequate Work Package Led to Reactor Coolant System Pressure Boundary Leakage)**

4OA5 Other Activities

.1 Temporary Instruction 2515/187- Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns (one sample)

a. Inspection Scope

The inspectors verified that Constellation's walkdown packages CC3, "East Wall of the Intake Structure;" CC5, "Watertight Door on the North Wall of the Intake Structure, Door IS-2;" and CC25, "Auxiliary Building Exterior Walls, Elevation 45' West Walls;" contained the elements as specified in NEI 12-07, Guidelines for Performing Verification Walkdowns of Plant Flood Protection Features.

The inspectors accompanied Constellation personnel on their walkdowns of the east wall of the intake structure and auxiliary building exterior walls, elevation 45' west walls and verified that the licensee confirmed the following flood protection features: exterior concrete walls and penetrations through wall were verified. External visual inspection for indication that would prevent its credited function from being performed was conducted.

The inspectors independently performed walkdowns and verified that door IS-2 seal was not degraded and the door was not obstructed. The inspectors verified that noncompliances with current licensing requirements, and issues identified in accordance with the 10 CFR 50.54(f) letter, Item 2.g of Enclosure 4, were entered into Constellation's CAP. In addition, issues identified in response to Item 2.g that could

challenge risk significant equipment and Constellation's ability to mitigate the consequences will be subject to additional NRC evaluation.

b. Finding

No findings were identified.

.2 Temporary Instruction 2515/188 – Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns (one sample)

a. Inspection Scope

The inspectors accompanied Constellation personnel on their seismic walkdowns of the Unit 1 Auxiliary building 27' and 45' elevations on August 8, 2012, and August 13, 2012, and verified that Constellation confirmed that the following seismic features associated with containment cooler fan No. 11 controller 1NB102, containment pressure transmitter to safety injection actuation signal 1PT5313A, No. 11B auxiliary high pressure safety injection (HPSI) loop isolation valve 1MOV627, and No. 11 main steam isolation valve 1CV4043 were free of potential adverse seismic conditions. The following features were verified:

- Anchorage was free of bent, broken, missing or loose hardware
- Anchorage was free of corrosion that is more than mild surface oxidation
- Anchorage was free of visible cracks in the concrete near the anchors
- Anchorage configuration was consistent with plant documentation
- SSCs will not be damaged from impact by nearby equipment or structure
- Overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls are secure and not likely to collapse onto the equipment
- Attached lines have adequate flexibility to avoid damage
- The area was free of potentially adverse seismic interactions that could cause flooding or spray in the area
- The area was free of potentially adverse seismic interactions that could cause a fire in the area
- The area was free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)

The inspectors independently performed their walkdowns of the Unit 1 turbine building 12' elevation and Unit 2 Auxiliary building minus 15' elevation on August 15, 2012, and verified that the following seismic features associated with the No. 11 and No. 12 AFW steam driven pumps, the No. 21 CS pump, and No. 21 HPSI pump were free of potential adverse seismic conditions. The following features were verified:

- Anchorage was free of bent, broken, missing or loose hardware
- Anchorage was free of corrosion that is more than mild surface oxidation
- Anchorage was free of visible cracks in the concrete near the anchors
- Anchorage configuration was consistent with plant documentation
- SSCs will not be damaged from impact by nearby equipment or structures
- Overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls are secure and not likely to collapse onto the equipment

- Attached lines have adequate flexibility to avoid damage
- The area was free of potentially adverse seismic interactions that could cause flooding or spray in the area
- The area was free of potentially adverse seismic interactions that could cause a fire in the area
- The area was free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)

Observations made during the walkdown that could not be determined to be acceptable were entered into Constellation's CAP for evaluation. Additionally, inspectors verified that items that could allow the spent fuel pool to drain down rapidly were added to the seismic walkdown equipment list and these items were walked down.

b. Finding

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On January 25, 2013, the inspectors presented the inspection results to Mr. George H. Gellrich, Vice President, and other members of Constellation staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Constellation Personnel

G. Gellrich, Site Vice President
 C. Costanzo, Plant General Manager
 J. Beasley, Supervisor, Engineering
 K. Bodine, Supervisor, Engineering
 J. Galbreath, Senior Engineer
 M. Giacini, Manager, Operations
 D. Lauver, Director, Licensing
 M. Lewis, Principal Engineer
 J. Gaines, General Supervisor, Shift Operations
 C. Neyman, Senior Engineering Analyst, Licensing
 T. Riti, General Supervisor, System Engineering
 A. Simpson, Supervisor, Licensing
 J. Stanley, Manager Engineering Services
 E. Krehling, Principal Engineer
 K. Gould, Radiation Protection Manager
 T. White, General Supervisor, Mechanical Maintenance

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

05000317/2012005-01	NCV	Inadequate Work Package Led to Reactor Coolant System Pressure Boundary Leakage (Section 4OA3)
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Closed

05000317/2012-002-00	LER	Reactor Coolant Pressure Boundary Leakage Due to Tubing High Cyclic Fatigue (Section 4OA3)
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Temporary Instruction 2515/187		Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns (Section 4OA5)
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Temporary Instruction 2515/188		Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns (Section 4OA5)
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

NO-1-119, Seasonal Readiness, Revision 00600
EP-1-108, Severe Weather Preparation, Revision 00300
ERPIP-3.0, Immediate Actions, Revision 04901
OAP 92-9, Operations Administrative Policy Cold Weather Operations, Change 7
OI-3A, Safety Injection and Containment Spray, Revision 26

Condition Reports

CR-2012-009750

Miscellaneous

SA-2012-000125, Post Summer Assessment 2012
SA-2012-000125, Pre-Winter Assessment 2012
D-M-92-008, HVAC–Diesel Generator Building Ventilation Cooling, Revision 1

Section 1R04: Equipment Alignment

Procedures

CNG-CA-1.01-1000, Corrective Action Program, Revision 00701
OI-16-1, Component Cooling System, Revision 32
OI-3A-1, Safety Injection and Containment Spray, Revision 26
OI-32A-1, Auxiliary Feedwater System, Revision 24

Condition Reports

CR-2012-011049

Work Orders

C91914390

Drawings

60710SH0002, Component Cooling System, Revision 39
60710SH0001, Component Cooling System, Revision 44
60583SH0001, Auxiliary Feedwater System (Steam), Revision 63
60583SH0002, Auxiliary Feedwater System (Condensate), Revision 2
60731SH0003, Safety Injection & Containment Spray Systems, Revision 30

Miscellaneous

M-94-077, Structural Modifications of Shutdown Cooling Heat Exchangers No.11 and No.12,
Revision 0
ETP 94-116R, Establishing and/or Verifying SDC HX CC Inlet Valve Throttle Positions Unit 1,
Revision 0
ETP 94-117R, Establishing and/or Verifying SDC HX CC Inlet Valve Throttle Positions Unit 2,
Revision 0

Section 1R05: Fire Protection

Procedures

FP-0002, Fire Hazards Analysis Summary Document, Revision 0

SA-1-100, Fire Prevention, Revision 01800

SA-1-102, Fire Protection/Appendix R Compensatory Actions, Revision 00400

SA-1-105, Fire Brigade Training, Revision 00101

OI-20A, Fire Protection Performance Evaluations and Fire Systems Inspections, Revision 01801

Drawings

62308, Area & Equipment Drains Containment & Aux. Bldg. Unit No.2 Plan at El. 45'-0",
Revision 14

60296, Roof, Area & Equipment Drains Details, Revision 18

62150SH0001, Appendix "R" Separation Requirements Aux. Bldg. & Contmt. Struct. Floor Plan at
Elevation 5' – 0"

Section 1R06: Flood Protection Measures

Work Orders

C91443421

Miscellaneous

ES-001, Flooding, Revision 3

Section 1R07: Heat Sink Performance

Condition Reports

CR-2012-008780

CR-2012-009157

Procedure

EN-1-125, Heat Exchanger Program, Revision 00000

EN-1-327, Service Water Reliability Program (Generic Letter 89-13), Revision 00500

Work Order

C92032119

Section 1R11: Licensed Operator Regualification Program

Procedures

CNG-OP-1.01-2001, Communication and Briefings, Revision 00100

CNG-OP-1.01-1000, Conduct of Operations, Revision 00600

NO-1-200, Control of Shift Activities, Revision 04902

OP-2-1, Plant Startup from Hot Standby to Minimum Load, Revision 46

OP-3-1, Normal Power Operations, Revision 62

OP-4-1, Plant Shutdown from Power Operations to Hot Standby, Revision 34

OP-5-1, Plant Shutdown from Hot Standby to Cold Shutdown, Revision 62

AOP-7C-1, Loss of Component Cooling Water, Revision 00301

EOP-00-1, Post Trip Immediate Actions, Revision 01201

EOP-02-1, Loss of Offsite Power, Revision 01403

Section 1R12: Maintenance Effectiveness

Procedures

CNG-AM-1.01-1023, Maintenance Rule Program, Revision 00100
NUMARC 93-01, Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 2
CNG-AM-9.01-1000, Underground Pipe and Tank Management, Revision 00200
NO-1-124, Water Intrusion (Roof/Structure leaks), Revision 0
MN-1-319, Structure and System Walkdowns, Revision 00800

Work Order

C91981269
C91951746
C91078641

Condition Reports

IRE-017-808
CR-2012-008213
CR-2012-001141
CR-2012-005971
CR-2012-007875
IRE-036-651
CR-2012-009885
CR-2012-008393
CR-2012-008061
CR-2012-008125
IRE-002-513
CR-2012-007169

Drawings

61256, Isolated Phase Bus Arrangement Unit 1, Revision 2
12404-67, Iso Phase Bus Cooling Unit, Revision 6
61406ASEC.101.1SH1, Cathodic Protection, Revision 0
61406SEC101.2Sh0003, Cathodic Protection, Revision 2

Miscellaneous

ECP-12-000329, White Paper Covering the Effect of Intake Structure Flooding on Salt Water Pumps
Apparent Cause Evaluation CR-2012-008125
Apparent Cause Evaluation CR-2012-007169
AMBD-0045, License Renewal Aging Management Basis Document, Salt Water Cooling System, Revision 0001

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

Maintenance Rule Risk Assessment Guideline, Revision 7
CNG-OP-4.01-1000, Integrated Risk Management, Revision 00900
CNG-OP-4.01-1000 Attachment 9, High Risk Activity Plan, dated July 28, 2011
NO-1-200, Control of Shift Activities, Revision 04902
EOOS Risk Monitor Guidelines – Senior Reactor Operators, Revision 1

EOOS Guidelines – Dominant Risk Activities, Revision 0
OI-16-1, Component Cooling System, Revision 32
OI-3A-1, Safety Injection and Containment Spray, Revision 26

Drawings

60710SH0002, Component Cooling System, Revision 39
60710SH0001, Component Cooling System, Revision 44
60731SH0003, Safety Injection & Containment Spray Systems, Revision 30

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

CNG-OP-1.01-1002, Conduct of Operability Determinations/Functionality Assessments,
Revision 00200
CNG-CA-1.01-1000, Corrective Action Program, Revision 00701

Work Order

C91306368

Condition Reports

CR-2012-009073
CR-2012-009648
CR-2012-008973

Drawing

61001SH0001, Electrical Main Single Line Diagram, Revision 43

Section 1R19: Post-Maintenance Testing

Procedures

STPO-73A-1, Salt Water Pump and Check Valve Quarterly Operability Test, Revision 02301
STOP-73A-2, Salt Water Pump and Check Valve Quarterly Operability Test, Revision 01801
NO-1-208, Calvert Cliffs Operability and Maintenance Testing, Revision 01700
CNG-MN-4.01-GL002, Post Maintenance Test and Post Maintenance Operability Test
Requirements guideline, Revision 00000
STPO-73K-2, Containment Spray Pump Operability Test, Revision 10
Pump -3A, Salt Water Pump Removal and Replacement, Revision 00103
OI-29-1, Salt Water System, Revision 65
OI-29-2, Salt Water System, Revision 58

Condition Reports

IRE-002-513
IRE-036-651
CR-2012-001141
CR-2012-005971
CR-2012-007169
CR-2012-007875
CR-2012-009885
CR-2012-008393
CR-2012-008061
CR-2012-008125
CR-2012-011302

Work Orders

C91981269
C91078641
C91951746
C92121202
C91664950

Drawings

12315-0002SH0001, 24" Angle Flow Pump Fairbanks Morse Co. Fig 5712 Assembly,
Revision 47

Miscellaneous

Section 1R20: Refueling and Other Outage Activities

Procedure

OP-2-1, Plant Startup from Hot Standby to Minimum Load, Revision 46
OP-3-1, Normal Power Operations, Revision 62
OP-4-1, Plant Shutdown from Power Operations to Hot Standby, Revision 34
OP-5-1, Plant Shutdown from Hot Standby to Cold Shutdown, Revision 62
LR-01, On Line Leaks Repairs to Various Pressure Retaining Components, Revision 00600

Work Order

C92056535
C92093874

Condition Report

CR-2012-010694
CR-2012-010654

Miscellaneous

2012 U1 Forced Outage CEA 37 Schedule

Section 1R22: Surveillance Testing

Procedures

BAT-037, 1A EDG Service Test, Revision 00300
STPM-552-1, 11 Station Battery Service Test, Revision 01103
STPM-550-1, 12 Station Battery Service Test, Revision 00902
STPM-552-2, 21 Station Battery Service Test, Revision 00903
STPM-550-2, 22 Station Battery Service Test, Revision 01001
STP O-73C-1, Component Cooling Water Pump Inservice Test, Revision 10 & 12
STP-O-8A-1, Test of 1A DG and 11 4KV Bus LOCI Sequencer, Revision 27

Condition Reports

CR-2012-010294

Drawing

CENG System Descriptions – Figures 15-1 and 15-2

Miscellaneous

D-E-92-002, DC Calculation for New Diesel Generator Buildings, Revision 0002
 IEEE450-1995, IEEE Recommended Practice for Maintenance, Testing, and Replacement of
 Vented Lead-Acid Batteries for Stationary Applications
 GNB Specifications Nuclear Class 1E Flooded Batteries NCN - Lead Calcium
 E-93-016, 125VDC Station Battery Discharge Times, Revision 0001
 SP 508, 125V Station Service Battery 1950H, Revision 0
 E-89-005, SBO & LOCA Battery Duty Cycle – 125 VDC Bus11

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Procedure

ERPIP-3.0, Immediate Actions, Revision 05101

Section 1EP6: Drill Evaluation

Procedure

ERPIP-3.0, Immediate Actions, Revision 05101
 NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 6
 AOP-7C-1, Loss of Component Cooling Water, Revision 00301
 EOP-00-1, Post Trip Immediate Actions, Revision 01201
 EOP-02-1, Loss of Offsite Power, Revision 01403

Section 2RS1: Radiological Hazard Assessment and Exposure Controls

Procedures

NO-1-110, Calvert Cliffs Key and Lock Control, Revision 00801
 RP-1-100, Radiation Protection, Revision 01001
 RSP-1-104, Area Postings and Barricading, Revision 02401

Section 4OA1: Performance Indicator Verification

Procedure

NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 6

Condition Report

CR-2012-009097

Miscellaneous

PJM Edart Event Requests 861676 and 873107
 Calvert Cliffs Power History Charts (Units 1 & 2) – 2011 & 2012

RWP#	Revision	Tasks
139	1	1
1400	1	1,2
1406	0	1,2,3,4
1411	0	1,2,3
1501	1	1,2
1500	0	1,2,3,4,5

Section 4OA2: Problem Identification and Resolution

Condition Reports

CR-2012-004552
CR-2012-009031
CR-2012-009077
CR-2012-002627

Procedures

CNG-CA-1.01-1007, Performance Improvement Program Trending and Analysis,
Revision 00300
CNG-CA-1.01-1000, Corrective Action Program, Revision 00701
NO-1-200, Control of Shift Activities, Revision 05000
NO-1-123, Managing Operator Impacts, Revision 0200

Miscellaneous

Progress and Performance Management Process, Executive Summary Report 3rd Quarter 2012
Operations Cognitive Trending 3rd Quarter 2012 Report
Maintenance Cognitive Trending 3rd Quarter 2012 Report

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

Condition Reports

CR-2012-000712

Miscellaneous

PLNG – GL, Integrated Work Management Planning Guidelines, Revision 9
Work Order C119970966

Section 4OA5: Other Activities

Procedure

NEI 12-07, Guidelines for Performing Verification Walkdowns of Plant Flood Protection
Features, Revision 0-A
EPRI TR-1025286, Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task
Force Recommendation 2.3: Seismic

LIST OF ACRONYMS

ADAMS	Agency-Wide Documents Access and Management System
AFW	auxiliary feedwater
CAP	corrective action program
CEA	control element assembly
CC	component cooling
CCNPP	Calvert Cliffs Nuclear Power Plant
CFR	<i>Code of Federal Regulations</i>
CR	condition report
CS	containment spray
EDG	emergency diesel generator
gpm	gallons per minute
HPSI	high pressure safety injection
IMC	Inspection Manual Chapter
kV	kilovolt
LER	Licensee Event Report
LOCA	loss of coolant accident
NEI	nuclear energy institute
NCV	non-cited violation
NRC	Nuclear Regulatory Commission
OD	operability determination
PARS	publicly available records
PI	performance indicator
PMT	post maintenance test
RCP	reactor coolant pump
RCS	reactor coolant system
SDP	significance determination process
SSC	systems, structures, and components
SRW	service water
SW	saltwater
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report