



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
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August 26, 2011

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

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT – NRC EVALUATION OF
CHANGES, TESTS, OR EXPERIMENTS AND PERMANENT PLANT
MODIFICATIONS TEAM INSPECTION REPORT 05000317/2011007 AND
05000318/2011007

Dear Mr. Gellrich:

On July 15, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Calvert Cliffs Nuclear Power Plant, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on July 15, 2011, with Mr. James M. Yoe, Acting Plant General Manager, 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. In conducting the inspection, the team reviewed selected procedures, calculations and records, observed activities, and interviewed station personnel.

Based on the results of this inspection, no findings were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system, Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

Lawrence T. Doerflein, Chief
Engineering Branch 2
Division of Reactor Safety

Docket No. 50-317, 50-318
License No. DPR-53, DPR-69

G. Gellrich

2

Enclosure:

Inspection Report 05000317/2011007; 05000318/2011007
w/Attachment: Supplemental Information

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

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Sincerely,

/RA/

Lawrence T. Doerflein, Chief
 Engineering Branch 2
 Division of Reactor Safety

Docket No. 50-317, 50-318
 License No. DPR-53, DPR-69

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SUNSI Review Complete: ltd (Reviewer's Initials)

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E. Burket, DRS

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.: 50-317, 50-318

License Nos.: DPR-53, DPR-69

Report No.: 05000317/2011007 and 05000318/2011007

Licensee: Constellation Energy

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

Location: 1650 Calvert Cliffs Parkway
Lusby, MD 20657

Inspection Period: June 27 through July 15, 2011

Inspectors: E. Burket, Reactor Inspector, Division of Reactor Safety (DRS),
Team Leader
D. Orr, Senior Reactor Inspector, DRS
M. Balazik, Reactor Inspector, DRS

Approved By: Lawrence T. Doerflein, Chief
Engineering Branch 2
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000317/2011007, 05000318/2011007; 06/27/2011-07/15/2011; Calvert Cliffs Nuclear Power Plant Units 1 & 2; Engineering Specialist Plant Modifications Inspection.

This report covers a two week on-site inspection period of the evaluations of changes, tests, or experiments and permanent plant modifications. The inspection was conducted by three region based engineering inspectors. 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.

No findings were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R17 Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications (IP 71111.17)

.1 Evaluations of Changes, Tests, or Experiments (26 samples)

a. Inspection Scope

The team reviewed six safety evaluations to determine whether the changes to the facility or procedures, as described in the Updated Final Safety Analysis Report (UFSAR), had been reviewed and documented in accordance with 10 CFR 50.59 requirements. In addition, the team evaluated whether Constellation had been required to obtain NRC approval prior to implementing the changes. The team interviewed plant staff and reviewed supporting information including calculations, analyses, design change documentation, procedures, the UFSAR, the Technical Specifications (TS), and plant drawings to assess the adequacy of the safety evaluations. The team compared the safety evaluations and supporting documents to the guidance and methods provided in Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Evaluations," as endorsed by NRC Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," to determine the adequacy of the safety evaluations.

The team also reviewed a sample of twenty 10 CFR 50.59 screenings for which Constellation had concluded that no safety evaluation was required. These reviews were performed to assess whether Constellation's threshold for performing safety evaluations was consistent with 10 CFR 50.59. The sample included design changes, calculations, and procedure changes.

The team reviewed the safety evaluations that Constellation had performed and approved during the time period covered by this inspection (i.e., since the last modifications inspection) not previously reviewed by NRC inspectors. The screenings and applicability determinations were selected based on the safety significance, risk significance, and complexity of the change to the facility.

In addition, the team compared Constellation's administrative procedures used to control the screening, preparation, review, and approval of safety evaluations to the guidance in NEI 96-07 to determine whether those procedures adequately implemented the requirements of 10 CFR 50.59. The reviewed safety evaluations and screenings are listed in the attachment.

b. Findings

No findings were identified.

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.2 Permanent Plant Modifications (11 samples)

.2.1 Installation of Blowout Doors in the Reactor Cavity Cooling System Ducts

a. Inspection Scope

The team reviewed a modification (ECP-09-000189) that installed safety-related blowout doors in the reactor cavity cooling system supply ducts in both Units 1 and 2. Constellation installed the blowout doors to address concerns in NRC Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized-Water Reactors." The reactor cavity cooling system uses two redundant fans to supply air from the containment air cooler plenum through ducting to the reactor cavity distribution manifold to provide cooling to the neutron detectors, the primary shield penetrations and the primary shield. The blowout doors are supplied with fusible links that are designed to melt at the high temperatures experienced during a loss-of-coolant accident (LOCA). The blowout doors are designed to ensure that any water from the containment spray system which collects in the reactor cavity cooling system ducts will spill into the containment sump and be available for sump recirculation.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the reactor cavity cooling system had not been degraded by the modification. The team interviewed engineering staff and reviewed technical evaluations associated with the modification to determine if the blowout doors would function in accordance with the design assumptions. The team reviewed drawings, procedures, and calculations to ensure that they were properly updated. The associated post modification test (PMT) results were reviewed to ensure appropriate acceptance criteria had been met. The team also reviewed condition reports to determine if there were reliability or performance issues that may have resulted from the modification. Additionally, the 10 CFR 50.59 screening determination associated with this modification was reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.2 Modification to the Control Room Emergency Ventilation System

a. Inspection Scope

The team reviewed a modification (EC20080041-001) to the control room emergency ventilation system (CREVS) that installed new post loss-of-coolant incident (LOCI) filter units consisting of larger fans and fan motors, a set of pre-filters, upstream and downstream high-efficiency particulate air filters, and charcoal filter trays. Constellation performed this modification to support the control room licensing commitments made to the NRC when taking credit for the Alternative Source Term dose regulatory limits for a

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Design Basis Accident (DBA). The new post LOCI filter units are designed to filter an additional 8,000 cubic feet per minute of the control room air when control room ventilation is in emergency recirculation mode.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the control room emergency ventilation system had not been degraded by the modification. The team interviewed engineering staff and reviewed technical evaluations to determine if the CREVS would function in accordance with the design assumptions. The associated work order instructions and documentation were reviewed to verify that maintenance personnel implemented the modification as designed. The team walked down the accessible portions of the new post LOCI filter units to determine material condition of the system and ensure they were installed in accordance with design instructions. The team reviewed the PMT results to ensure the appropriate acceptance criteria had been met and the tests demonstrated the adequacy of the new design. A review of the condition reports associated with the new post LOCI filter units was performed to determine if there were reliability or performance issues that may have resulted from the modification. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.3 Change Containment Sump Buffer Material from Trisodium Phosphate to Sodium Tetraborate

a. Inspection Scope

The team reviewed a modification (EC20080151-000) that changed the containment sump buffer material from trisodium phosphate to sodium tetraborate (STB) in both Units 1 and 2. Constellation implemented this modification to address concerns in NRC GL 2004-02. Constellation determined that the use of STB would minimize the potential for sump screen blockage concerns under post LOCA conditions.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the containment sump had not been degraded by the buffer material change. The team interviewed engineers and reviewed calculations and technical evaluations to verify that the STB buffer material would function in accordance with design assumptions. The team reviewed the associated PMT results to ensure the appropriate acceptance criteria had been met. Because the modification was inside containment, it was not practical to walk down the STB location while the units were operating at power. However, the team did walk down the storage location of the STB to ensure it was maintained in accordance with shelf life requirements. The team also

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confirmed that surveillance tests, operational procedures, and drawings had been appropriately updated to reflect the change. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.4 11 Containment Spray Pump Motor Replacement

a. Inspection Scope

The team reviewed a modification (ECP-09-000381) on Unit 1 which installed a 300 horsepower (HP) Allis Chalmers motor on the 11 containment spray (CS) pump in place of an existing 200 HP Allis Chalmers motor. Constellation implemented the 11 CS pump motor replacement as a corrective action for increasing bearing vibration measurements and elected to use an existing refurbished spare 300 HP motor. The 300 HP motor was a viable option because it had previously been in satisfactory use in the 12 CS pump motor location, was qualified and refurbished, and required only minor modification mechanically and electrically for the 11 CS pump motor location.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the 11 containment spray pump had not been degraded by the modification. The team verified that flow to the 11 CS header would not appreciably change, operation of the CS system remained the same, electrical loading on the safety-related switchgear was properly accounted for, and necessary changes to the associated electrical breaker protective relay setpoints were established. The team interviewed design engineers and reviewed calculations, evaluations, vendor and nameplate data, post-modification testing results, and associated maintenance work orders to verify that the motor replacement modification was appropriately implemented. Finally, the team walked down the 11 CS pump and motor with the system engineer to verify the maintenance activities were properly completed. The 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.5 21 Main Steam Header Atmospheric Dump Valve Solenoid Modification

a. Inspection Scope

The team reviewed a modification (EC20090060) on Unit 2 associated with an equivalency change for the 21 main steam header atmospheric dump valve (ADV) 3-way solenoid-operated air pilot valve. The 21 ADV solenoid valve was due for preventive maintenance change out, and the installed valve was obsolete. After performing an

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equivalent change technical evaluation, Constellation replaced the 21 ADV solenoid valve with a replacement valve from the same manufacturer.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the 21 ADV had not been degraded by the modification. Specifically, the team verified that seismic qualification and evaluation, electric power consumption, valve characteristics, air operating pressures, and minimum operating voltage were equivalent or improved. The team interviewed design engineers and reviewed evaluations, vendor and nameplate data, post-modification testing results, and associated maintenance work orders to verify that the 21 ADV solenoid valve replacement was appropriately implemented. Finally, the team walked down the 21 ADV solenoid valve with the system engineer to verify the maintenance activities were properly completed. The 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.6 Reactor Trip Breaker Replacements

a. Inspection Scope

The team reviewed a modification (ES-07-000035) to install a new style breaker for replacement of all Unit 1 and Unit 2 reactor trip breakers (RTBs). The RTB replacements were intended to eliminate minor breaker issues identified through maintenance activities and eliminate a parts obsolescence issue with the old RTBs.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the reactor trip breakers had not been degraded by the modification. Specifically, the team reviewed attributes such as minimum and maximum operating voltages, breaker response timing, seismic qualification, environmental considerations, breaker failure modes, and protective tripping to verify the new RTBs were equivalent or improved when compared to the previous RTBs. The team interviewed design engineers and reviewed evaluations, purchase specifications to the vendor, vendor verification and validation reports, vendor technical bulletins, seismic qualifications and evaluations, post-modification testing results, and associated maintenance work orders to determine whether the Unit 1 and Unit 2 RTB replacements were appropriately implemented. The team verified changes were initiated to drawings for a minor wiring change and to the UFSAR for a description of the RTB maintenance program. Finally, the team walked down the Unit 1 and Unit 2 RTBs with the system engineer to verify the maintenance activities were properly completed. The 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

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b. Findings

No findings were identified.

.2.7 Reactor Protective System Delta-Temperature Potentiometer Setpoint Change

a. Inspection Scope

The team reviewed a setpoint modification (ECP-10-000336) to all four channels of the Unit 1 Reactor Protective System (RPS) delta-temperature (delta-T) power instruments. The delta-T power instrument channels provide signals to RPS that are proportional to reactor power. The setpoint change was made immediately prior to and necessitated by a Unit 1 measurement uncertainty recapture (MUR) power uprate that was implemented on April 30, 2010.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the Unit 1 reactor protective system had not been degraded by the setpoint modification. The team verified that Constellation evaluated the impact of the pending MUR power uprate on the delta-T power instrument response and appropriately calculated new setpoints and maintained setpoint tolerances consistent with secondary calorimetric requirements. The team also noted that reactor engineers incorporated operating experience from the Unit 2 MUR that was performed on August 13, 2009. The team verified the setpoint file attachments were updated for the revised setpoints. Finally, the team observed a reactor operator demonstrate how the setpoint file was referenced and necessary adjustments made to the delta-T power instruments as required by technical specification surveillance requirement 3.3.1.2. Additionally, the 10 CFR 50.59 screening determination associated with this modification was reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.8 Emergency Diesel Generator Low Lube Oil and Jacket Water Pressure Time Delay Setpoint Change

a. Inspection Scope

The team reviewed a modification (ECP-10-000590) that changed the setpoint of the low lube oil and jacket water pressure trip time delay on the Units 1 and 2 Fairbanks Morse emergency diesel generators (EDGs). The time delay is used to bypass the EDG trip relay during the start to ensure sufficient lube oil and jacket water pressure is present prior to enabling the relay trip function. Constellation modified the time delay setting as a corrective action to ensure sufficient time for the EDG to start and to achieve minimum lube oil pressure prior to enabling the low lube oil pressure trip, to prevent a spurious EDG trip. The time delay was extended from 15 seconds to 30 seconds.

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The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the EDG had not been degraded by the modification. The team interviewed engineering staff and reviewed technical evaluations associated with the modification to determine if the EDG and its support systems would function in accordance with the design assumptions. The team reviewed the associated work order to verify that maintenance personnel implemented the modification as designed. The team reviewed the associated post-modification test results to verify that the time delay settings were within tolerance following the modification. The team verified drawings and calibration instrumentation sheets were properly updated based on the new setpoint setting. The team also reviewed corrective action documents to determine if there were reliability or performance issues that may have resulted from the modification. The team reviewed documentation to ensure the plant simulator was updated with the modification. In addition, the team verified the replacement task frequency was within the vendor's recommended timeframe. The 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.9 High Pressure Safety Injection Pump Seal Cooling Separator Replacement

a. Inspection Scope

The team reviewed a modification (ES200800209) that replaced the Units 1 and 2 high pressure safety injection (HPSI) pump seal cooling separators. The function of the separator is to provide clean seal water from the HPSI pump discharge to ensure proper cooling, flushing, and lubrication of the HPSI pump seals. Constellation implemented the modification in response to Generic Safety Issue 191, "Assessment of Debris Accumulation on PWR Sump Pump Performance." The old separator model was fitted with a screen located upstream of several separation chambers, which made it susceptible to clogging. The replacement separator utilizes one large separation chamber which makes it less susceptible to clogging.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the HPSI system had not been degraded by the separator replacement. The team reviewed technical evaluations and testing to verify that the separator would function in accordance with design assumptions. The team verified the testing accounted for site specific debris loading conditions during a design basis event. The team performed a walkdown the HPSI separator to access material condition and to verify that the separator was installed in accordance with design assumptions and instructions. The team also reviewed corrective action documents and PMT results to determine if there were reliability or performance issues that may have resulted from the modification. The team discussed the modification and design basis with design and

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system engineers to assess the adequacy of the modification. Additionally, the team reviewed the 10 CFR 50.59 screen associated with the modification. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

2.10 Transfer of Saltwater System Throttling Function From 1CV5208 to 1CV5163

a. Inspection Scope

The team reviewed a modification (ES200300238) that transferred the saltwater (SW) system throttling function in Unit 1 from valve 1CV5208 to valve 1CV5163. These air-operated valves are located on the discharge side of the 12 component cooling water (CCW) heat exchanger. Valve 1CV5208 was normally throttled by operators to control CCW temperatures and 1CV5163 was a normally opened isolation valve. Constellation performed the modification due to problems experienced with the stroking of 1CV5208. Both valves are designed to fail open to ensure continued SW flow to the CCW heat exchangers.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the SW system had not been degraded by the swapping the control function between the two valves. The team reviewed the associated work order instructions and documentation to verify that maintenance personnel implemented the modification as designed. The team reviewed the associated PMT results and post-modification surveillance test results to verify proper operation of the valves. The team walked down 1CV5208 and 1CV5163 to verify that Constellation had adequately implemented the modification and maintained configuration control. The team also assessed the material condition of the valves and accessories as part of the walkdown. In addition, the team verified system drawings, operator training, and the simulator were updated to reflect the modification. The team also reviewed corrective action documents to determine if there were reliability or performance issues that may have resulted from the modification. The team discussed the modification with design and system engineers to assess the adequacy of the modification. Finally, the 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

2.11 Main Steam Isolation Valve Hydraulic Pressure Switch Removal

a. Inspection Scope

The team reviewed a modification (ECP-09-000340) that removed pressure switches, 1PS4043A and 1PS4048A, used to provide indication of high or low actuator hydraulic pressure of the 11 and 12 main steam isolation valves (MSIVs), respectively. The switches have failed on multiple past occasions and Constellation determined that the switches were not suited for the application. The pressure switch provided alarm annunciation locally and within the control room. The alarm function was permanently transferred to existing pressure transmitters, 1PT4043A and 1PT4048A. Constellation installed new pressure transmitters, 1PT4043C and 1PT4048C, in place of the pressure switches for use as installed spares.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the MSIVs had not been degraded by the modification. Although Constellation implemented the modification on both Units 1 and 2, the team focused their review on Unit 1. The team reviewed drawings, procedures, calculations, calibration data sheets, and training documents to ensure that they were properly updated. The team reviewed the associated work order instructions and documentation to verify that maintenance personnel implemented the modification as designed. The team discussed the modification with design and system engineers to assess the adequacy of the modification. In addition, the team reviewed corrective action documents to determine if there were reliability or performance issues that may have resulted from the modification. Finally, the 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

4. **OTHER ACTIVITIES**

4OA2 Identification and Resolution of Problems (IP 71152)

a. Inspection Scope

The team reviewed a sample of condition reports (CRs) associated with 10 CFR 50.59 and plant modification issues to determine whether Constellation was appropriately identifying, characterizing, and correcting problems associated with these areas, and whether the planned or completed corrective actions were appropriate. In addition, the team reviewed CRs written on issues identified during the inspection to verify adequate problem identification and incorporation of the problem into the corrective action system. The CRs reviewed are listed in the attachment.

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b. Findings

No findings were identified.

4OA6 Meetings, including Exit

The team presented the inspection results to Mr. James M. Yoe, Acting Plant General Manager, and other members of Constellation's staff at an exit meeting on July 15, 2011. The team returned the proprietary information reviewed during the inspection and verified that this report does not contain proprietary information.

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ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Constellation Personnel

C. Birke, System Engineer
W. Buchanan, Reactor Engineer
D. Cates, Design Engineer
D. Cox, Design Engineer
G. Dare, System Engineer
J. Delgado, System Engineer
A. Drake, Design Engineer
D. Dvorak, Design Engineer
S. Geier, General Supervisor, Design Engineering
G. Gellrich, Site Vice President
D. Hartful, System Engineer
J. Herron, Supervisor, Engineering
E. Hussain, Design Engineer
M. Khan, Design Engineer
C. Neyman, Licensing
S. Reichard, Licensing
S. Ruble, Design Engineer
T. Schearer, Reactor Engineer
J. Stanley, Manager, Engineering Services
B. Stark, Design Engineer
A. Steiner, Design Engineer
L. Steiner, Design Engineer
J. Suarez-Murias, Design Engineer
L. Williams, System Engineer
J. Yoe, Acting Plant General Manager

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

10 CFR 50.59 Evaluations

SE00502, Unit 2 Cycle 18 Core Reload (2009 RFO), Rev. 3
SE00503, Changing Sump Buffer from Trisodium Phosphate to Sodium Tetraborate, Rev. 0
SE00504, Loss of Pin in Reactor Vessel, Rev. 0
SE00506, Unit 1 Cycle 20 Core Reload (2010 RFO), Rev. 0
SE00507, Unit 2 Cycle 19 Core Reload (2011 RFO), Rev. 1

Attachment

SE00508, Disposition for a Stainless Steel Key (1/8" x 1/8" x 5/8") in the Reactor Vessel/Reactor Coolant System, Rev. 0

10 CFR 50.59 Screened-out Evaluations

- EC200800056, Replace Condensate Storage Tank Level Indicator 1LI5603A, Rev. 0
- EC20080041-002, Installation of Radiation Monitors Required for RTU-1 and AHU-1, Rev. 1
- EC20090082-000, Evaluate Containment Coating Activities Performed During 2009 Unit 2 RFO, Rev. 0
- ECP-09-000106, Install Permanent Cables and New Safety Related Tubing and Valves to Support Implementation of Mansell Level Monitoring System for RCS U-2, Rev. 0
- ECP-10-000864, Motor Replacement for 1MA105 - #11 Saltwater Pump Motor, Rev. 0
- ECRCN-10-000147, Equivalency Change for Critical Control Relays, Rev. 0
- ES-2008-000035, Jumper Cell 55 on Safety-Related Reserve Battery, Rev. 0
- ES-2008-000205, Fail Air to 1CV5163, Rev. 0
- ES-2010-000334, Reverse Polarity of 2B EDG Magnetic Pickup Speed Signal to Electronic Speed Switch, Rev. 0
- ES200500475, Replace Steam Generator Blowdown Radiation Monitor, Rev. 0
- ES200500698, Downgrade of Charging Pumps from Safety-Related to Augmented Quality, Rev. 0
- ES200700475-000, Installation of Permanent Lead Shielding Inside the Unit 1 Containment Building, Rev. 0

Modification Packages

- EC20080041-001, Replace Post LOCI Filtration Units 0FLHVACPL-11 and -12 with Larger Filtration Units, Rev. 0
- EC20080151-000, Containment Buffer Replacement Trisodium Phosphate to Sodium Tetraborate, Rev. 0
- EC20090060*, 21 Main Steam Header Atmospheric Dump Valve 3-Way Solenoid-Operated Air Pilot Valve Equivalency Change, Rev. 0
- ECP-09-000189*, Make Supplemental Changes Inside Unit 1 & Unit 2 Containment to Support New Containment Sump Strainer Design Basis, Rev. 0
- ECP-09-000340*, Main Steam Isolation Valve Hydraulic Pressure Switch Removal and Pressure Transmitter Installation, Rev. 0
- ECP-09-000381*, 11 Containment Spray Pump Motor Swap, Rev. 0
- ECP-10-000336*, Unit 1 Reactor Protective System Delta-Temperature Potentiometer Setpoint Change, Rev. 0
- ECP-10-000590*, Emergency Diesel Generator Low Lube Oil and Jacket Water Pressure Time Delay Setpoint Change, Rev. 0
- ES-07-000035*, Replace Existing Reactor Trip Circuit Breakers with Square D Masterpact Type NT Breakers Supplied by Nuclear Logistics Incorporated (NLI), Rev. 1
- ES200300238*, Transfer of Saltwater System Throttling Function from 1CV5208 to 1CV5163, Rev. 0
- ES200800209, High Pressure Safety Injection Pump Seal Cooling Separator Replacement, Rev. 0

(* designates a Modification and 10 CFR 50.59 screen-out evaluation sample)

Calculations, Analysis, and Evaluations

000-TH-8902, Once-Through Core Cooling Analysis, dated 4/89
 2008-09427, Debris Mix for Testing HPSI Cyclone Separator, Rev. 0
 67901, CCNPP Long-Term ECCS Operation, dated 4/16/1975
 C-80-011, CCNPP Containment Units 1 and 2 Chemical Buffer Basket Seismic Qualification, Rev. 4
 CA00001, Unqualified Coatings within Containment Units 1 & 2, Rev. 5
 CA02725, Modeling of the Control Room/Cable Spreading Room HVAC System Using "GOTHIC" software, Rev. 1
 CA03771, Determination of Minimum Water Level in Containment during Containment Sump Recirculation, Rev. 4
 CA03819, Uncertainty Calculation for 11 and 21 Condensate Storage Tank Level, Rev. 0
 CA07190, Main Steam Isolation Valve Actuator Hydraulic Pressure Instrument Loop Accuracy Calculations, Rev. 0
 CA07254, Post LOCI Filtration Units, Dampers and Ductwork Seismic Qualification, Rev. 2
 E-90-065, Protective Relay Setpoint Calculations for 4.16KV Breakers Bus 11, Rev. 4
 E-93-016, 125Vdc Station Battery Discharge Times, Rev. 1
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Attachment

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ADV	Atmospheric Dump Valve
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CR	Condition Reports
CREVS	Control Room Emergency Ventilation System
CS	Containment Spray
DBA	Design Basis Accident
Delta-T	Delta-Temperature
DRS	Division of Reactor Safety
EDG	Emergency Diesel Generators
GL	Generic Letter
HP	Horsepower
HPSI	High Pressure Safety Injection
IP	Inspection Procedure
LOCA	Loss-of-Coolant Accident
LOCI	Loss-of-Coolant Incident
MSIV	Main Steam Isolation Valves
MUR	Measurement Uncertainty Recapture
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PMT	Post Modification Test
RPS	Reactor Protective System
RTB	Reactor Trip Breaker
STB	Sodium Tetraborate
SW	Saltwater
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report