



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

November 18, 2013

Mr. Christopher Costanzo, Site Vice President
Nine Mile Point Nuclear Station, LLC
P.O. Box 63
Lycoming, NY 13093-0063

SUBJECT: NINE MILE POINT NUCLEAR STATION-NRC EVALUATION OF
CHANGES, TESTS, OR EXPERIMENTS AND PERMANENT
MODIFICATIONS -TEAM INSPECTION REPORT 05000220/2013008
AND 05000410/2013008

Dear Mr. Costanzo:

On October 3, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Nine Mile Point Nuclear Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on October 3, 2013, with Mr. James Stanley, 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 (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Paul G. Krohn, Chief
Engineering Branch 2
Division of Reactor Safety

Docket Nos. 50-220; 50-410
License Nos. DPR-63; NPF-69

C. Costanzo

2

Enclosure:

Inspection Report No. 05000220/2013008
and 05000410/2013008 with Supplemental Information

cc: Distribution via ListServ

Mr. Christopher Costanzo, Site Vice President
 Nine Mile Point Nuclear Station, LLC
 P.O. Box 63
 Lycoming, NY 13093-0063

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos. 50-220, 50-410

License Nos.: DPR-63, NPF-69

Report Nos. 05000220/2013008; 05000410/2013008

Licensee: Nine Mile Point Nuclear Station, LLC (NMPNS)

Facility: Nine Mile Point, Units 1 and 2

Location: Oswego, New York

Inspection Period: September 16 through October 3, 2013

Inspectors: J. Brand, Reactor Inspector, Division of Reactor Safety (DRS)
Team Leader
F. Arner, Senior Reactor Inspector, DRS
M. Orr, Reactor Inspector, DRS
J. Rady, Reactor Inspector, DRS

Approved By: Paul G Krohn, Chief
Engineering Branch 2
Division of Reactor Safety

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SUMMARY OF FINDINGS

IR 05000220/2013008, 05000410/2013008; 09/16/2013-10/03/2013; Nine Mile Point Nuclear Station, Units 1 and 2; Engineering Specialist Plant Modifications Inspection.

This report covers a 2 week on-site inspection period of the evaluations of changes, tests, or experiments and permanent plant modifications. The inspection was conducted by four 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.

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REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R17 Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications (IP71111.17)

.1 Evaluations of Changes Tests, or Experiments (27 samples)

a. Inspection Scope

The team reviewed three 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 Title 10 of the *Code of Federal Regulations* (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-four 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 (15 samples)

.2.1 Unit 2, Main Steam System Extended Power Uprate Instrumentation Changes

a. Inspection Scope

The team reviewed a modification (ECP-10-000809) that incorporated all Main Steam System (MSS) instrumentation replacements, scaling, and setpoint changes required for implementation of the Extended Power Uprate (EPU) project. Four (4) safety-related flow transmitters 2MSS*FT11A(B)(C)(D) were replaced with flow transmitters that included a wider operating range to properly measure the increased main steam line flow resulting from the EPU project. The Main Steam Line High Flow and Turbine First Stage Pressure Scram Enable setpoints were also modified to account for MSS flow and pressure changes due to EPU project implementation. The review was performed to verify that the design bases, licensing bases, and performance capability of the Main Steam Line High Flow and Turbine First Stage Pressure Scram Enable setpoints had not been degraded by the modification. Additionally, the equivalent 10 CFR 50.59 screening associated with this modification was reviewed as described in Section 1R17.1 of this report.

The team assessed whether the modification was consistent with requirements in the design and licensing bases. The team reviewed calculations and technical evaluations to assess whether the modification was consistent with design assumptions. Replacement components and materials were reviewed to ensure that the modification conformed to the design specifications. Design assumptions were reviewed to evaluate whether they were technically appropriate and consistent with the UFSAR. The team also verified that selected drawings, calculations, instrument calibration sheets, and procedures were properly updated based on the installation of the replacement transmitters and system configuration. The team reviewed the surveillance testing to verify proper operation of the equipment. The team reviewed condition reports (CR) associated with the equipment to verify that deficiencies were appropriately identified and corrected. Finally, the team conducted interviews with engineering staff to determine if the affected structures, system, and components (SSC) would function in accordance with the design assumptions. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.2 Unit 2, K1 Relay Replacement in Voltage Regulator Circuit for Emergency Diesel Generator 2EGS*EG3

a. Inspection Scope

The team reviewed a modification (ECP-10-000332) that replaced the K1 relay within Emergency Diesel Generator (EDG) 2EGS*EG3 automatic voltage regulator circuit.

The EDG provides emergency backup power to safety related buses during a Loss of Offsite Power (LOOP) condition. The K1 relay is part of the instantaneous pre-position circuit to control the output voltage of the EDG. The existing K1 relay was replaced because it was installed in an application where the relay was continuously energized with approximately 135 VDC and this voltage exceeded the maximum operating voltage of the relay. The higher operating voltage resulted in reduced service life for the existing K1 relay and a more frequent replacement period was implemented to prevent component failures. The replacement K1 relay provided the same form, fit, and function as the existing K1 relay and has a maximum operating voltage rating of 137.5 VDC. The review was performed to verify that the design bases, licensing bases, and performance capability of the replacement K1 relay had not been degraded by the modification. Additionally, the equivalent 10 CFR 50.59 screening associated with this modification was reviewed as described in Section 1R17.1 of this report.

The team assessed whether the modification was consistent with requirements in the design and licensing bases. The team reviewed technical evaluations to assess whether the modification was consistent with design assumptions. Power requirements were reviewed to verify that the component met the manufacturer's specifications. Design assumptions were reviewed to evaluate whether they were technically appropriate and consistent with the UFSAR. The team also verified that selected drawings and procedures were properly updated based on the replacement component. The team reviewed the post-modification testing to verify proper operation of the equipment. The team reviewed CRs associated with the equipment to verify that deficiencies were appropriately identified and corrected. Additionally, the team conducted interviews with engineering staff to verify that the affected SSC functioned in accordance with the design assumptions, and to determine if the modification corrected the previously identified problem. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.3 Removal of 86 Lockout Signal for Trip of Unit 1 Spent Fuel Cooling Pumps on a Loss of Voltage Signal

a. Inspection Scope

The team reviewed a modification (ECP-12-000035) that eliminated a load shedding scheme that tripped Unit 1 Spent Fuel Cooling (SFC) pump 11(12) breakers when a LOOP or Degraded Voltage condition occurred on power boards PB102(103) and power was available on power boards PB16A(17A). Automatic load shedding of non-critical loads, including SFC pumps 11(12), during a LOOP or Degraded Voltage event is initiated to control EDG 102(103) loading. Shedding SFC pumps 11(12) when power is available on PB16A(17A) was not necessary because under those circumstances the SFC pump 11(12) loads were not transferred to the EDGs. The modification replaced the RLY-K86-16 (17) lockout relay inputs in the SFC pump 11(12) trip coil circuits with inputs from Under Voltage (UV) relays that monitor power boards PB16A(17A). The modification was performed to improve SFC pumps 11(12) availability and also reduce

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Reactor Building entries that are required to manually restart the SFC pumps 11(12) during a LOOP or Degraded Voltage condition with power available on power boards PB16A(17A). The review was performed to verify that the design bases, licensing bases, and performance capability of the SFC pumps 11(12) had not been degraded by the modification. Additionally, the equivalent 10 CFR 50.59 screening associated with this modification was reviewed as described in Section 1R17.1 of this report.

The team assessed whether the modification was consistent with requirements in the design and licensing bases. The team reviewed technical evaluations to assess whether the modification was consistent with design assumptions. Wiring diagrams were reviewed to ensure that the modification conformed to the design specifications. Design assumptions were reviewed to evaluate whether they were technically appropriate and consistent with the UFSAR. The team reviewed the post-modification testing to verify proper operation of the equipment. Finally, the team conducted interviews with engineering staff to determine if the affected SSCs would function in accordance with the design assumptions. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.4 Wide Range Drywell Pressure Indication Power Supply Change

a. Inspection Scope

The team reviewed a modification (EC20090048) that replaced existing Wide Range Drywell Pressure Indicator PI-201.2-483A (484A) power supplies located in Analog Trip System cabinets within the Reactor Building with new power supplies located in Auxiliary Control Room cabinets to provide a mild environment for the new components. The Drywell Pressure Indicators provide post-accident monitoring information in accordance with NRC Regulatory Guide 1.97. The environmental qualification of the original power supplies did not satisfy all of the required environmental conditions to remain functional after a Design Basis Accident (DBA). The review was performed to verify that the design bases, licensing bases, and performance capability of the replacement Drywell Pressure Indicator power supplies had not been degraded by the modification. Additionally, the equivalent 10 CFR 50.59 screening associated with this modification was reviewed as described in Section 1R17.1 of this report.

The team assessed whether the modification was consistent with requirements in the design and licensing bases. The team reviewed technical evaluations to assess whether the modification was consistent with design assumptions. Power requirements were reviewed to verify that the replacement equipment met the manufacturer's specifications. Replacement components and materials were reviewed to ensure that the modification conformed to the design specifications. The replacement components were also reviewed to verify that they were seismically qualified. Design assumptions were reviewed to evaluate whether they were technically appropriate and consistent with the UFSAR. The team also verified that selected drawings and procedures were properly updated based on the new equipment. The team reviewed the post-modification testing

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to verify proper operation of the equipment. Additionally, the team conducted interviews with engineering staff to verify that the affected SSCs functioned in accordance with the design assumptions, and to determine if the modification corrected the previously identified problem. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.5 Design Bases Evaluation for Extended Power Uprate Unit 2

a. Inspection Scope

The team reviewed ECP-10-000313 which addressed the design basis reconstitution to support the EPU implementation for Unit 2. This ECP included evaluation of non-hardware related document updates. The EPU resulted in additional heat being added to the suppression pool during certain postulated accident scenarios. The team selected a sample of emergency operating procedure (EOP) revisions performed due to the impact of this additional decay heat. The team reviewed calculations and associated analyses to verify that design inputs and outputs were technically reasonable. The team focused on the impact that the additional decay heat would have on the Heat Capacity Temperature Limit (HCTL) curve in the EOPs. The HCTL is the highest allowed suppression pool temperature prior to the emergency depressurization of the reactor pressure vessel (RPV). The limits specified by the HCTL curve, ensure that the accident mitigation functions of the suppression pool are maintained after the RPV emergency depressurization.

The team reviewed the revisions to verify that the design and licensing bases and performance capability of the containment, and equipment in the containment necessary for the safe shutdown of the plant, had not been degraded. The team interviewed design engineers and reviewed procedures to ensure the change to the HCTL curves were technically adequate and correctly translated into the EOPs. The 10 CFR 50.59 screening determination associated with this ECP was also reviewed as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.6 Unit 1, Reactor Building Closed Loop Cooling Pump 13 Pressure Switch Replacement

a. Inspection Scope

The team reviewed engineering change package (ECP) ECP-10-000596, which was developed to support the replacement of the low suction pressure sensing switch (PS-70-279) for the reactor building closed loop cooling (RBCLC) pump 13. The previous switch had failed and was causing a low suction pressure alarm to be annunciated. The switch was obsolete and required an equivalency evaluation to

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approve the use of an alternative pressure switch. The design function of the associated pressure switch is to act as a low suction pressure permissive to the RBCLC pumps. When the pressure switch detects a low suction pressure condition with the pumps out of service, the switch prevents the pumps from starting. Additionally, the switch sends signals to alarm in the control room during low suction pressure events.

The team reviewed the equivalency change to verify that the design and licensing bases and performance capability of the RBCLC system had not been degraded by the modification. The team assessed Constellation's technical evaluations and design analyses, including equipment qualification (EQ) specifications and associated pump net-positive-suction-head reviews, to determine whether the switch would function in accordance with the ECP assumptions, and with design and licensing requirements. The team reviewed drawings and specifications to verify that they were revised in accordance with the ECP requirements. The team reviewed post-equivalency change test results to verify that the acceptance criteria had been met. Additionally, the team walked down the pressure switch to independently evaluate material conditions and configuration control with the approved design. A review of the CRs was performed to determine if there were any reliability or performance issues associated with the replacement switch. Additionally, the 10 CFR 50.59 screening determination associated with this ECP was reviewed as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.7 Unit 1, Liquid Poison Pump Internals Upgrade to Increase Flowrate

a. Inspection Scope

The team reviewed ECP-11-000002, which was developed to install vendor pump performance upgrade kits to increase the output flow capacity of the liquid poison pumps (LPP) PMP-42-38 and PMP-42-39. The change was performed to increase the available margin in liquid poison flow to the reactor. The liquid poison system (LPS) is a redundant safety system, designed to chemically shutdown the reactor and maintain it in a sub-critical condition, independent of the control rod system. The LPS also has a post-loss-of-coolant-accident (LOCA) safety function to buffer the suppression pool pH in order to maintain bulk pH above 7.0. This function is necessary to prevent iodine-re-evolution consistent with alternate source term analysis methodology.

The team reviewed the ECP to verify that the design and licensing bases and performance capability of the LPS pumps had not been degraded by the modification. The team assessed Constellation's technical evaluations and design analyses, including installation specifications, pump net-positive-suction-head and pump motor breaker setting reviews, to evaluate whether the pumps would function in accordance with the ECP assumptions, and with design and licensing bases requirements. The team reviewed drawings and procedures to verify that they were revised in accordance with the ECP requirements. The team reviewed post-modification test results to verify that

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the acceptance criteria had been met. Additionally, the team walked down the LPPs to independently evaluate material conditions and configuration control with the approved design. A review of the CRs was performed to determine if there were any reliability or performance issues associated with the pumps. Additionally, the 10 CFR 50.59 screening determination associated with this ECP was reviewed as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.8 Replacement of Unit 1 Condensate Transfer Pump 12

a. Inspection Scope

The team reviewed ECP-10-000229, which evaluated replacement materials for the condensate transfer pump (PMP-57-11) impeller and packing. Specifically the equivalent change was associated with replacement of the original leaded tin bronze impeller with an aluminum bronze impeller. The condensate transfer pump takes suction from the condensate storage tanks (CST) and discharges it through a check valve and blocking valve to a common header. The safety-related function of the pumps is to provide makeup water from the CST to the fuel pool cooling system and to the emergency cooling system.

The team reviewed the ECP to verify that the design and licensing bases and performance capability of the condensate transfer pump had not been degraded by the modification. The team assessed Constellation's technical evaluation of the replacement material to verify that the new material will not adversely impact the impeller performance. This included a review of material characteristics of the pump impeller and configuration changes with the pump packing. The team reviewed post ECP test results to verify that the pump performance was acceptable and met the established acceptance criteria. A review of the CRs was performed to determine if there were any reliability or performance issues associated with the pump. Additionally, the 10 CFR 50.59 screening determination associated with this ECP was reviewed as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.9 Unit-2, Emergency Diesel Generator Exhaust Chamber Assembly Gasket Material Change

a. Inspection Scope

The team reviewed modification ECP-09-000212 that installed a replacement gasket in the exhaust chamber assembly adaptor to expansion joint connection of the Unit 2 Division III EDG. The EDG exhaust chamber assembly is an integral part of the

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generator system, providing for the removal of burnt combustion gases from the engine. The modification was performed to utilize a gasket of revised material composition currently available from the EDG vendor. The gasket is required to be replaced periodically in accordance with normal preventative maintenance.

The team assessed the modification to verify that the design bases and performance capability of the EDG had not been adversely impacted by the change in material. The team also discussed the impact of the modification on the EDG operation with responsible engineers. Additionally, the team reviewed maintenance work orders to verify that the modification was appropriately implemented. The team performed a field inspection of the EDG including accessible portions of the exhaust system to assess the quality of the modification work and the overall material condition of the equipment. The adequacy and results of the post-modification testing was verified and affected design documents were reviewed to ensure they had been properly updated. The team reviewed the 10 CFR 50.59 screening associated with this modification as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.10 Unit-1, Emergency Diesel Generator Cooling Water Temperature Control Switch Replacement

a. Inspection Scope

The team reviewed modification ECP-09-000427 that replaced a Unit 1 103 EDG temperature switch for cooling water temperature control. The modification was performed to replace an obsolete General Motors ElectroMotive Diesel temperature switch that provides inputs to the controller for water temperature supplied to the lubricating oil cooler and immersion heater control systems.

The team reviewed the modification to verify that the design and licensing bases and performance capability of the EDG had not been degraded by the new temperature switch. The team reviewed the vendor information and data to determine if the capabilities of the switch met the intended function. The team reviewed post-modification testing results and associated maintenance work orders for the new switch installation to verify correct calibration and installation. Additionally, the team conducted interviews with engineering staff and walkdowns of the 102 and 103 EDGs and auxiliary systems to assess material condition. Finally, the 10 CFR 50.59 screening associated with this modification was reviewed as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.11 Replace Valve Internals of Isolation Valves IV-38-01 and IV-38-02

a. Inspection Scope

The team reviewed modification ECP-10-000414 that replaced the internals of the shutdown cooling system isolation valves IV-38-01 and IV-38-02. The modification included replacing the original solid-wedge gate valves with flex-wedge gate valves to prevent susceptibility to thermal binding. The changes further included altering the stem material from A276-316 to A564 Type 630 H1075 instead of A128 F316, installing Smart Stems versus stems requiring mounted strain gages, changes from Stellite 6 to Stellite 21 for guide material, and different tolerances to drilled holes and counterbore stem nuts. Constellation chose this modification based on operating knowledge/experience from the field and utilization of vendor replacement parts to ensure a one-for-one replacement.

The team reviewed the modification to verify that the design bases, licensing bases, and performance capability of the shutdown cooling system isolation valves had not been degraded by the modification. The team verified that the design specifications of the new valves and actuators were equivalent or improved. The team interviewed design engineers and reviewed calculations, evaluations, purchase specifications, vendor verification and validation reports, and post-modification testing results to verify that the valve replacement modifications were appropriately implemented. In addition, the team reviewed corrective action documents to determine if there were reliability or performance issues that may have resulted from the modification. The 10 CFR 50.59 screening determination associated with this modification was reviewed as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.12 Revised Unit 2 Standby Diesel Generator Fuel Oil Storage Tank Calculation

a. Inspection Scope

The team reviewed modification ADC-11-001164-CN-001, which revised calculation EGF-016 (Division I and II Standby Diesel Generator Storage Tanks). The calculation revision incorporated updated modeling of motor loading to represent loading that occurs when the Division I and II standby diesel generators are operating at the maximum allowable technical specification frequency of 61.2 Hertz. The purpose of the calculation was to verify that the capacity of the storage tanks complied with the seven-day minimum storage and periodic test requirements.

The team conducted the review to ensure that the design bases, licensing bases, and performance capability of the Unit 2 Fuel Oil Storage Tanks had not been adversely affected by the revision to the calculation. The team reviewed the design of the Fuel Oil Storage system to assess the adequacy of the calculation. The team walked down the accessible portions of the Fuel Oil Storage system to evaluate the material condition.

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The team also confirmed that related documents and procedures were updated as necessary to reflect the revision. The team reviewed corrective action documents to determine if reliability or performance issues existed with the fuel oil transfer pumps. The 10 CFR 50.59 screening determination associated with this calculation was also reviewed as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.13 Unit 2, Improve Reliability of Standby Gas Treatment System

a. Inspection Scope

The team reviewed modification ECP-12-000147 that implemented several changes to improve the reliability of the standby gas treatment system (SGTS). The SGTS is designed to maintain a negative pressure in the reactor building under design basis accident conditions and to limit the release of radioactive gases from the reactor building to the environment. The modification replaced the two existing air amplifiers and associated components with four larger amplifiers, to prevent the system air tank pressure from dropping below 330 psig during normal surveillance testing and normal operation. The new amplifiers have a significantly larger capacity and were installed in a redundant lead/lag configuration. Constellation evaluated the modification to ensure the design and licensing bases of the plant were not adversely affected by the engineering change.

The team reviewed the modification to verify that the design and licensing bases and performance capability of the SGTS system function had not been degraded. The team interviewed design and system engineers and reviewed post-modification test results and associated maintenance work orders to verify that the modification was appropriately implemented. The team also confirmed that surveillance tests, operational procedures, and drawings had been appropriately updated to reflect the design change. The team also reviewed applicable corrective action documents and performed a walkdown of the SGTS system to visually inspect the modification and system condition. The 10 CFR 50.59 screening determination associated with the modification was also reviewed as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.14 Unit 2, Temporarily Gag 2HVK*TV22A at the Maximum Cooling Position (100 Percent Open)

a. Inspection Scope

The team reviewed modification ECP-13-000028 that gaged the relay room temperature control valve 2HVK*TV22A at the maximum cooling position (100 percent open). This modification was implemented to temporarily address unexpected cycling of the valve whereby it drifted from the closed position to approximately 85 percent open. This valve is part of the relay room ventilation subsystem which forms part of the control building ventilation system. The control building ventilation system is designed to provide heating, ventilation, and air conditioning and, as necessary, space pressurization and smoke removal for multiple safety-related areas including, the main control room and the relay room under both normal and accident conditions.

The team reviewed the modification to verify that the design and licensing bases and performance capability of the relay room and control building ventilation system function had not been degraded. The team interviewed design and system engineers and reviewed post-modification test results and associated maintenance work orders to verify that the modification was appropriately implemented. The team performed a field inspection of the relay room and the temporary gag installed on valve 2HVK*TV22A, and inspected the material condition of similar redundant valves associated with the control building ventilation system which were operating properly. The team also reviewed applicable corrective action documents and performed an inspection of the system condition. The 10 CFR 50.59 screening determination associated with the modification was also reviewed as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2.15 Unit 2, Removal of the Low Suction Pressure Trip for Spent Fuel Pool Pumps 2SFC*P1A and 2SFC*P1B

a. Inspection Scope

The team reviewed modification ECP-10-000968 that removed the low suction pressure trip from the two Unit 2 spent fuel pool cooling circulating pumps, 2SFC*P1A and 2SFC*P1B. This modification was necessary because the SFC pumps do not have a minimum flow line, and operations personnel were challenged during pumps starts to prevent a pump low suction pressure trip. The safety function of the spent fuel pool cooling system is to remove the decay heat released from the spent fuel elements and maintain a specified fuel pool water temperature and water level. The low suction pressure trip is not related to this safety function and is only a protective feature for the pumps. The team verified the SFC pumps will continue to have protective features in place, including the existing low discharge pressure trip, low discharge flow trip, low

surge tank level indication, and low suction pressure alarm. The licensee determined that by removing the low suction trip for the two pumps, there would be improved reliability of the system to perform its safety-related design functions.

The team reviewed the modification to verify that the design and licensing bases and performance capability of the spent fuel pool cooling system function had not been degraded. The team interviewed design and system engineers and reviewed post-modification test results and associated maintenance work orders to verify that the modification was appropriately implemented. The team also confirmed that surveillance tests, operational procedures, and drawings had been appropriately updated to reflect the design change. The 10 CFR 50.59 screening determination associated with the modification was also reviewed as described in Section 1R17.1 of this report. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

40A2 Identification and Resolution of Problems (IP 71152)

a. Inspection Scope

The team reviewed a sample of condition reports (CR) associated with 10 CFR 50.59 and plant modification issues to evaluate 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.

b. Findings

No findings were identified.

40A6 Meetings, including Exit

The team presented the inspection results to Mr. J. Stanley, Plant General Manager, and other members of Constellation's staff at an exit meeting on October 3, 2013. The team returned the proprietary information reviewed during the inspection and verified that this report does not contain proprietary information.

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Constellation Personnel

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R. Corieri,	Design Engineer
S. Dhar,	Design Engineer

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

10 CFR 50.59 Evaluations

2011-02, ECP-10-000337, NMP1 Reload 21 Methods Changes, Revision 0
ECP-13-000270, Log No. 2013-01, Spent Fuel Pool Criticality Analysis Method Change to Address Boraflex Degradation, Revision 0
ECP-10-00662, Log No. 2011-01, Implement Appendix J Closed Loop System Method of Compliance for ECS, Revision 0

10 CFR 50.59 Screened-out Evaluations

ECP-10-000433, Evaluation of 125Vdc System Station Blackout/Appendix R Battery Sizing, Revision 0
ECP-10-000537, Replacement of 2ARPS Multinest Power Supply with a 2ARPS05 Multinest Power Supply, Revision 1
ECP-09-000640, Design & Installation of New Feedwater Pump Motor Power Cables to Support EPU Operation, Revision 1

ECP-11-000098, Evaluation to Replace the Existing Valve Actuator Motors MOT-40-01, MOT-40-09, and MOT-40-10 with Equivalent Valve Actuators, Revision 0
ECP-11-000135, Equivalency for 2SWP*M1E for Motor Insulation Changes After Refurbishment and Rewind, Rev. 0 ECP-11-000002, Install Vendor Upgrade Kit to Increase Flowrate for Liquid Poison Pumps, Revision 0
ECP-10-000229, PMP-57-11, Condensate Pump Impeller Material Change, Revision 0
ECP-10-000313, N2-2012-1, EPU, DBD Updates, Revise Calcs and Drawings to Implement EPU, Revision 0
ECP-10-000596, U-1 RBCLC Pump Low Suction Pressure Switches Equivalency, Revision 0
ECP-10-000107, Replace Liquid Poison Tank Test Valve BV-42-06, Revision 0
ECP-10-000734, Replacement of CKV-41-10 Liquid Poison Pump Check Valve, Revision 0
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ECP-12-000299, Multiple Spurious Operations 2RHR*MOV15, 15B, 25A and 25B, Revision 0
ECP-09-000212, NMP2 Div III EDG Exhaust Gasket Material Change, Revision 0
ECP-09-000427, NMP1 EDG Immersion Heater Temperature Switch Change, Revision 0
ECP-10-000414, NMP1 S/D Cooling Isolation Valves Internal Component Replacements, 11/18/10
ECP-10-000931, NMP1 Surge Tank High Level Set Point Change and Local Level Indicator, Revision 1
ECP-10-000969, Belzona Repair to cracked NMP2 Div I Breather Housing, Revision 0
ECP-11-000109, Install Capacitor for Master Trip Unit 2ICS*PDIS167, 2/11/11

Modification Packages (* designates Modification and 10 CFR 50.59 screening sample)

ADC-11-001164-CN-001, Division 1 & 2 Diesel Generator Fuel Oil Storage Tanks, Revision 0
*EC20090048, Wide Range Drywell Pressure Indication Power Supply Change, Revision 0
ECP-09-000212, NMP2 Div III EDG Exhaust Gasket Material Change, Revision 0
ECP-09-000427, NMP1 EDG Immersion Heater Temperature Switch Change, Revision 0
*ECP-10-000332, K1 Relay Replacement in Voltage Regulator Circuit for Emergency Diesel Generator 2EGS*EG3, Revision 0
ECP-10-000414, NMP1 S/D Cooling Isolation Valves Internal Component Replacements, Revision 1
*ECP-10-000809, Main Steam System Extended Power Uprate Instrumentation Changes, Revision 2
*ECP-10-00968, Removal of The Low Suction Pressure Trip for The U-2 Spent Fuel Pool Pumps, 2SFC*P1A and 2SFC*P1B, Revision 0
ECP-11-000002, Install Vendor Upgrade Kit to Increase Flowrate for Liquid Poison Pumps, Revision 0
ECP-10-000229, PMP-57-11, Condensate Pump Impeller Material Change, Revision 0
ECP-10-000313, N2-2012-1, EPU, DBD Updates, Revise Calcs and Drawings to Implement EPU, Revision 0
ECP-10-000596, U-1 RBCLC Pump Low Suction Pressure Switches Equivalency, Revision 0
*ECP-12-000035, Removal of 86 Lockout Signal for Trip of Unit 1 Spent Fuel Cooling Pumps on a Loss of Voltage Signal, Revision 1
*ECP-12-000147, Improve Reliability of Unit 2, Standby Gas Treatment System, Revision 0

Calculations, Analyses, and Evaluations

A10.1-AC-005, NMP Unit 2 Heat Capacity Limit Workesheet 1, 2 and 3, Revision 0
A10.2-I-029, Accumulator Sizing for Tanks 2GTS*TK1A/B, Revision 3
0000-0084-1839-R1, Instrument Limits Calculation Main Steam Line High Flow Group 1 Isolation, Revision 1
0000-0084-3242-R0, Instrument Limits Calculation for Turbine First Stage Pressure Scram Bypass Permissive, Revision 0
120VACRPS11/12PDCS, Reactor Protection System Buses 11 and 12 Fuse Coordination, Revision 1
E21RPSUPSES, Static Uninterruptible Power Supply to Replace Reactor Protection System Motor Generator Set, Revision 8
EC-042, Verification of Adequacy of Division 1 Battery 2BYS*BAT2A and Battery Chargers 2BYS*BAT2A1 and 2A2, Revision 11
EC-043, Verification of Adequacy of Division 1 Battery 2BYS*BAT2B and Battery Chargers 2BYS*BAT2B1 and 2B2, Revision 9
S20.1-40V090, Evaluation of Reduced Motor Voltage Resulting from Replacement of Magnesium Motor with Aluminum for IV-40-09, Revision 5
ES-266, Reactor Vessel and Primary Containment Response Unit 2, Revision 2
S14-41-F006, Liquid Poison NPSHa Test, Revision 0
S14-42-M003, Liquid Poison System IST Test Pressure and Pump Curve, Revision 4
S14-42M004, Liquid Poison System NPSH Requirements for Alternate Source Term Implementation, Revision 1
SP-PS-70-279, Setpoint Pressure Switch 70-277 Which Actuate on Suction Pressure To the Rx Bld. Cooling Water Pumps, Revision 0
600VAC-PB160PDCS, PB16 Coordination Study, Revision 0
Category I Root Causal Analysis, NMP1 – Failure of SDC IV-38-01 to Open Electrically on Demand, 4/17/09
CCN No. ADC-11-000819-CN-001 EC-032-13.00, Diesel Generator Loading, Revision 0
CCN No. ADC-11-001031-CN-001 EGF-012-03.00, Division I & II Standby Diesel Generator Day Tank, Revision 0
CCN No. ADC-11-001164-CN-001 EGF-016, Division I & II Standby Diesel Generator Storage Tank, Revision 0
CCN No. ECP-09-000139 EC-032-13.00, Diesel Generator Loading, Revision 0
CCN No. ECP-09-000443 EC-032-13.00, Diesel Generator Loading, Revision 0
CCN No. ECP-09-000540 EC-032-12.00, Diesel Generator Loading, Revision 0
CCN No. ECP-09-000540 EGF-016-03.00, Diesel Generator Storage Tank Capacity, Revision 0
CCN No. ECP-10-000256 EC-032-13.00, Diesel Generator Loading, Revision 0
CCN No. ECP-10-000265 EC-032-13.00, Diesel Generator Loading, Revision 0
CCN No. ECP-10-000267 EC-032-13.00, Diesel Generator Loading, Revision 0
CCN No. ECP-10-000270 EC-032-13.00, Diesel Generator Loading, Revision 0
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CCN No. ECP-10-000275 EC-032-13.00, Diesel Generator Loading, Revision 0
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CCN No. ECP-10-000291 A10.1-N-340, Steady State Hydraulic Analysis Impact Due to Change of Piping Fitting, Revision 0
CCN No. ECP-10-000291 AX-019AK-05.00, Local Stress Increase Due to HPCS Cross Tie Branch Connection, Revision 0
CCN No. ECP-10-000454-CN-046 EC-032-13.00, Diesel Generator Loading, Revision 0

CCN No. ECP-10-000884-CN-009 EC-032-13.00, Diesel Generator Loading, Revision 0
 CCN No. ECP-10-000931-CN-007 S14-54M004-00.00, Spent Fuel Pool Surge Tank Level and Volume Calculation, Revision 0
 CCN No. ECP-11-000099-CN-002 600VACMCC167-38-01, MOV Overload Relay Heater Motor Protection, Revision 0
 EC-032, Diesel Generator Loading, Revision 13
 EGF-12, Division I, II and III Standby Diesel Generator Day Tank Sizing, Revision 3
 EGF-16, Division I, II Standby Diesel Generator Storage Tank, Revision 3

Condition Reports

CR-2008-008383	CR-2012-000807	CR-2013-007820*
CR-2009-001433	CR-2012-000821	CR02013-007827*
CR-2009-002167	CR-2012-001867	CR-2013-007828*
CR-2009-002549	CR-2012-003283	CR-2013-007955*
CR-2010-000552	CR-2012-006615	CR-2013-007971*
CR-2011-005754	CR-2012-006785	CR-2013-008134*
CR-2011-005897	CR-2012-006881	CR-2013-008173*
CR-2011-007013	CR-2012-008680	CR-2013-007971*
CR-2011-008604	CR-2013-005117	CR-2013-008175*
CR-2011-009216	CR-2013-006236	CR-2013-008220*
CR-2011-009482	CR-2013-006345	CR-2013-003318
CR-2011-011252	CR-2013-007710*	CR-2013-003338
CR-2011-011326	CR-2013-007711*	CR-2013-003897
CR-2012-000402	CR-2013-007758*	CR-2013-004897

(*denotes NRC identified during this inspection)

Drawings

0007166906023, Unit 2, Electro Hydraulic Operator Assembly, Revision 14
 0007166906037, Unit 2, Reservoir Assembly Electro-Hydraulic Operator, Revision 2
 0007161906048, Control Valve Assembly for 2HVK*TV22A & B, Revision 8
 0007.222-001-004, Elementary Diagram Feedwater Control System, Revision 13
 0007.222-001-006, Elementary Diagram Feedwater Control System, Revision 4
 PID-061C, Unit 2, Piping & Instrumentation Diagram Stand-By Gas, Revision 8
 C-19409-C, Sht. 1B, AC Station Power Distribution One-Line Diagram, Revision 16
 TL2GTS-010, Sht. 1, Test Loop Diagram Reactor Building Inside / Outside Differential Pressure, 2GTS*PDSL5B, *PDSH5B, Revision 5
 TL2GTS-010, Sht. 2, Test Loop Diagram Reactor Building Inside / Outside Differential Pressure, 2GTS*PDSL5B, *PDSH5B, Revision 2
 TL2GTS-049, Sht. 1, Test Loop Diagram Reactor Building Inside / Outside Differential Pressure, 2GTS*PDT5B, Revision 5
 TL2GTS-049, Sht. 2, Test Loop Diagram Reactor Building Inside / Outside Differential Pressure 2GTS*PDT5B, Revision 4
 TL2MSS-068, Sht. 1, Test Loop Diagram Main Steam Line 'A' Flow 2MSS*FT11A, Revision 4
 TL2MSS-068, Sht. 2, Test Loop Diagram Main Steam Line 'A' Flow 2MSS*FT11A, Revision 2
 TL2MSS-068, Sht. 3, Test Loop Diagram Main Steam Line 'A' Flow 2MSS*FT11A, Revision 3
 TL2MSS-068, Sht. 4, Test Loop Diagram Main Steam Line 'A' Flow 2MSS*FT11A, Revision 1
 C-18022-C, Sht. 2, Reactor Building Closed Cooling System P&ID, Revision 55

C-19436-C, Sht. 3, Elementary Wiring Diagram, 600 V. Power Board 16, Revision 33
C-23095-C, Sht. 2, Interconnection Diagram Auxiliary Control Cabinet, Revision 17
C-18006-C, Sht. 1, Drywell & Torus Isolation Valves P&I Diagram, Revision 41
C-18007-C, Sht. 2, Reactor Core Spray P&I Diagram, Revision 4
C-18014-C, Sht. 6, Reactor Containment Drywell and Torus Mechanical and Electrical Penetration Leakage Test Stations P&I Diagram, Revision 6
C-18018-C, Sht. 1, Reactor Shutdown Cooling P&I Diagram, Revision 32
C-18026-C, Unit 1 Emergency Diesel Generator #103 Starting Air, Cooling Water, Lube Oil and Fuel P&ID, Sh. 2, Revision 24
KSV-73-2, Cooper-Bessemer Breather Assembly, Revision 1

Engineering Change Documents

CCN 2009-000214, Static Uninterruptible Power Supply to Replace Reactor Protection System Motor Generator Set, Revision 0
CCN 2009-000216, Reactor Protection System Buses 11 and 12 Fuse Coordination, Revision 0
EC-042-11, Verification of Adequacy of Division 1 Battery 2BYS*BAT2A and Battery Chargers 2BYS*BAT2A1 and 2A2, Revision. 0
EC-043-09, Verification of Adequacy of Division 1 Battery 2BYS*BAT2B and Battery Chargers 2BYS*BAT2B1 and 2B2, Revision 0
ECN 2009-000221, One Line Diagram Reactor Protection System Bus 11, Revision 0
ECN 2009-000222, One Line Diagram Reactor Protection System Bus 12, Revision 0
ECP-10-000809-CN-036, Power Uprate Instrument Setpoint Calculation, Revision 3

Procedures

CNG-FES-009, Equivalent Change Technical Evaluation, Revision 0
CNG-NL-1.01-1011, 10 CFR 50.59 Applicability Determinations, Screenings and Evaluations, Revision 3
CNG-SC-1.01-2000, Procurement Technical and Quality Requirements, Revision 2
CNG-FES-009, Equivalent Change Technical Evaluation, Revision 0
CNG-AM-1.01-1003, Plant Health Committee, Revision 00300
CNG-AM-1.01-1004, Equipment Reliability Reporting, Revision 4
CNG-FES-009, Equivalent Change Technical Evaluation, Revision 0
N1-EOP-1 Attachment 13, RPV Injection Utilizing Liquid Poison Tank, Revision 11
N1-EOP-3, Failure to Scram, Revision 18
N1-EOP-3.2, Alternate Boron Injection, Revision 4
N2-EOP-6, Attachment 29, Determining HCTL/NPSH/Vortex Limits, Revision 13
N2-EOP-6.29, Determining HCTL/NPSH/Vortex Limits, Revision 1
N2-EOP-RPV, RPV Control, Revision 14
N1-OP-12, Liquid Poison System, Revision 29
N2-OP-61B, Standby Gas Treatment System, Revision 1
N1-MMP-057-123, Condensate Transfer Pump Maintenance, Revision 201

Surveillance and Modification Acceptance Tests

N1-IPM-070-004, Reactor Building Closed Loop Cooling Flow Suction Pump Pressure and Make-Up Flow Switch Calibration, performed on 8/10/10, 11/15/2011 and 9/28/12
N1-MMP-057-123, Condensate Transfer Pump Maintenance, performed 10/7/11
N1-ST-M1B, Liquid Poison Pump 12 Operability Test, performed 7/5/11
N1-ST-Q8A, Liquid Poison Pump 11 Comprehensive Pump Test, performed 10/20/2011

N1-ST-Q8B, Liquid Poison Pump 12 Comprehensive Pump Test, performed 11/2/11
 N1-EPM-GEN-182, Motor Control Center (7700 Line) Inspection, performed 4/9/11
 N1-IPM-079-001, Diesel Generator Instrument Calibration, performed 11/20/09
 N1-IPM-079-002, Diesel Generator Temperature Instruments, performed 11/17/09 and 12/11/09
 N1-IPM-079-004, Diesel Generator Speed Sensing Instrument Calibration, performed 12/10/09
 N1-MMP-GEN-241, Overhaul and Inspection of Station Gate, Globe, Plug, Ball, and Butterfly Valves, performed 4/9/11
 N1-ST-C13, Reactor Shutdown Cooling System Valve Leakage Test, performed 4/23/13
 N1-ST-M4B, Emergency Diesel Generator 103 and PB 103 Operability Test, performed 6/10/13 and 7/07/13
 N1-ST-V8, MS, FW/HPCI, SDC, EC, RX Head Vent Valve Cold S/D Operability Test, performed 2/23/12
 NMPNS-IST-001, Pump & Valve Inservice Testing Program, Unit 1-Fourth 10-Year Interval and Unit 2-Third 10-Year Interval, completed on 6/27/13
 N2-ISP-GTS-R-001, Standby Gas Treatment System Pneumatic Supply / Accumulator Leak Rate Test, Revision 201, performed 10/4/11
 N2-ISP-GTS-R-001, Standby Gas Treatment System Pneumatic Supply / Accumulator Leak Rate Test, Revision 201, performed 12/19/12
 N2-ISP-GTS-R-001, Standby Gas Treatment System Pneumatic Supply / Accumulator Leak Rate Test, Revision 201, performed 11/31/13
 N2-OSP-EGS-M-001, Diesel Generator and Diesel Air Start Valve Operability Test – Division I and II, performed 8/25/13
 N2-OSP-EGS-M-002, Diesel Generator and Diesel Air Start Valve Operability Test – Division III, performed 7/23/13 and 8/20/13
 N2-IPM-LRT-001, Leak Rate Monitor Flow and Electrical Integrity Check, Revision 201, performed 12/20/12
 N2-IPM-LRT-001, Leak Rate Monitor Flow and Electrical Integrity Check, Revision 201, performed 2/1/13
 S-EMP-GEN-068, Limitorque Actuator Rebuild, performed 4/2/11
 S-EPM-GEN-063, Limitorque MOV Testing, performed 4/4/11
 S-EPM-GEN-064, Acquisition, Analysis and Trending of MC2 Data, performed 4/4/11
 S-EPM-GEN-066, MOV Stem Lubrication, performed 4/7/11

Work Orders

C70011500	C90752273	C91171754
C81018500	C90939073	C91171756
C81626600	C90965477	C91762194
C81847500	C90993464	C91103893
C90180600	C91131269	C91151954
C90620700	C91137474	C91898525
C90637363	C91137495	C91980561
C90673800	C91137496	
C90752218	C91137499	

Vendor Manuals

N2R369001XMITR009, Rosemount 3152N Pressure Transmitter for Nuclear Service Operating Instructions, Revision 0

Audits and Self-Assessments

N/A

Miscellaneous

NCIG-11, Guidelines for the Technical Evaluation of Replacement Items in Nuclear Power Plants, Revision 0

NEDC-32889p, General Electric Methodology for Instrumentation Technical Specification and Setpoint Analysis, Revision 3

Training ID 1101-211000C01, Liquid Poison System, Revision 0

Engineering Specification #P304Y, Manual and Motor Operated Rotary Torque Closure Carbon Steel Valves, dated 11-20-01

Design & Licensing Bases

FSAR, Nine Mile Point Unit 1, Revision 22

FSAR, Nine Mile Point Unit 2, Revision 20

NUREG-1047, Safety Evaluation Report Related to the Operation of Nine Mile Point Nuclear Station Unit 2, dated 2, 1985

Technical Specifications, Nine Mile Point Unit 1, Revision 172

Technical Specifications, Nine Mile Point Unit 1, Revision 135

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CFR	Code of Federal Regulations
CR	Condition Report
CST	Condensate Storage Tank
DBA	Design Basis Accident
DRS	Division of Reactor Safety
ECP	Engineering Change Package
EDG	Emergency Diesel Generator
EOP	Emergency Operating Procedure
EPU	Extended Power Uprate
EQ	Equipment Qualification
HCTL	Heat Capacity Temperature Limit
IMC	Inspection Manual Chapter
LOCA	Loss of Coolant Accident
LOOP	Loss of Offsite Power
LPP	Liquid Poison Pump
LPS	Liquid Poison System
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation

MSS	Main Steam System
OEM	Original Equipment Manufacturer
PARS	Publicly Available Records
RBCLC	Reactor Building Closed Loop Cooling
RPV	Reactor Pressure Vessel
SFC	Spent Fuel Cooling
SGTS	Standby Gas Treatment System
SR	Surveillance Requirement
SSC	Structures, Systems and Components
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
UV	Under Voltage
VDC	Volts Direct Current