



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

July 20, 2016

Mr. M.E. Reddemann,
Chief Executive Officer
Energy Northwest
P.O. Box 968, Mail Drop 1023
Richland, WA 99352-0968

**SUBJECT: COLUMBIA GENERATING STATION – NRC INTEGRATED INSPECTION
REPORT 05000397/2016002**

Dear Mr. Reddemann:

On June 30, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Columbia Generating Station. On July 7, 2016, the NRC inspectors discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. The finding involved a violation of NRC requirements.

Further, inspectors documented one licensee-identified violation which was determined to be of very low safety significance in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector at the Columbia Generating Station.

If you disagree with a cross-cutting aspect assignment 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 IV; and the NRC resident inspector at the Columbia Generating Station.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public

M. Reddemann

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Sincerely,

/RA/

Jeremy R. Groom, Chief
Project Branch A
Division of Reactor Projects

Docket No. 50-397
License No. NPF-21

Enclosure:
Inspection Report 05000397/2016002
w/ Attachments: Supplemental Information

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Letter to M.E. Reddemann from J. Groom dated July 20, 2016

SUBJECT: COLUMBIA GENERATING STATION – NRC INTEGRATED INSPECTION
REPORT 05000397/2016002

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000397
License: NPF-21
Report: 05000397/2016002
Licensee: Energy Northwest
Facility: Columbia Generating Station
Location: North Power Plant Loop
Richland, WA 99354
Dates: April 1 through June 30, 2016
Inspectors: D. Bradley, Resident Inspector
P. Elkmann, Senior Emergency Preparedness Inspector
G. Guerra, CHP, Emergency Preparedness Inspector
J. Kirkland, Senior Operations Engineer
G. Kolcum, Senior Resident Inspector
G. Pick, Senior Reactor Inspector
Approved By: Jeremy Groom, Chief
Project Branch A
Division of Reactor Projects

SUMMARY

IR 05000397/2016002; 04/01/2016 – 06/30/2016; Columbia Generating Station; Post Maintenance Testing.

The inspection activities described in this report were performed between April 1 and June 30, 2016, by the resident inspectors at Columbia Generating Station and inspectors from the NRC's Region IV office. One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. Additionally, NRC inspectors documented in this report one licensee-identified violation of very low safety significance. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

Cornerstone: Initiating Events

- Green. The inspectors reviewed a self-revealed, non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to follow procedure OI-41, "Operations Work Control Expectations," Revision 59. Specifically, the licensee incorrectly marked steps of procedure OSP-FPC/IST-Q701, "Fuel Pool Cooling System Operability Surveillance," Revision 34, as not applicable and therefore did not provide mechanical isolation between the non-safety reactor closed loop cooling system and the safety-related standby service water system. As a result, on March 28, 2016, the reactor closed loop cooling system was momentarily depressurized into the service water system and required a manual reactor scram due to a loss of reactor closed loop cooling for non-safety systems. The licensee entered this issue into their corrective action program as Action Request 346945.

The failure to follow procedure OI-41, "Operations Work Control Expectations," Revision 59, was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because it adversely affected the configuration control attribute of the Initiating Events Cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 1, "Initiating Events Screening Questions," dated June 19, 2012, the inspectors determined the finding was of very low safety significance (Green) because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The finding had a cross-cutting aspect in the area of human performance associated with avoiding complacency because the licensee failed to recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes including implementing appropriate error reduction tools. Specifically, licensed operators failed to recognize the possible latent issues and inherent risk of marking large portions of a procedure as "not applicable." [H.12] (1R19)

Licensee-Identified Violations

Violations of very low safety significance that were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and associated corrective action tracking numbers are listed in Section 4OA7 of this report.

PLANT STATUS

The plant began the inspection period at 70 percent power and was ascending in power from a startup on March 30, 2016. The plant reached 100 percent power on April 2, 2016. On April 16, 2016, the plant reduced power to approximately 92 percent for control rod drive testing. The plant returned to 100 percent power on April 17, 2016. On May 7, 2016, the plant reduced power to approximately 87 percent for planned hydraulic control unit maintenance. The plant returned to 100 percent power on May 7, 2016. On May 8, 2016, the plant reduced power to approximately 80 percent power for feedwater heater maintenance. The plant returned to 100 percent power on May 9, 2016. On May 14, 2016, the plant reduced power to approximately 70 percent for control rod drive testing, steam valve testing, and to obtain data for operation in the expanded power-to-flow configuration. The plant returned to 100 percent power on May 15, 2016. On May 21, 2016, the plant reduced power to approximately 80 percent power to obtain data for operation in the expanded power-to-flow configuration. The plant returned to 100 percent power on May 22, 2016. On May 22, 2016, the plant reduced power to approximately 70 percent power to support control rod maintenance. The plant returned to 100 percent reactor power on May 23, 2016. On June 18, 2016, the plant reduced power to 92 percent for control rod drive and steam valve testing. On June 19, 2016, the plant returned to 100 percent power and remained there for the remainder of the inspection period.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Summer Readiness for Offsite and Alternate AC Power Systems

a. Inspection Scope

On May 25, 2016, the inspectors completed an inspection of the station's off-site and alternate-ac power systems. The inspectors inspected the material condition of these systems, including transformers and other switchyard equipment to verify that plant features and procedures were appropriate for operation and continued availability of off-site and alternate-ac power systems. The inspectors reviewed outstanding work orders and open condition reports for these systems. The inspectors walked down the switchyard to observe the material condition of equipment providing off-site power sources.

The inspectors verified that the licensee's procedures included appropriate measures to monitor and maintain availability and reliability of the off-site and alternate-ac power systems.

These activities constituted one sample of summer readiness of off-site and alternate-ac power systems, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

.2 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

On June 3, 2016, the inspectors completed an inspection of the station's readiness for seasonal extreme weather conditions. The inspectors reviewed the licensee's adverse weather procedures for seasonal high temperatures and evaluated the licensee's implementation of these procedures. The inspectors verified that prior to the onset of hot weather, the licensee had corrected weather-related equipment deficiencies identified during the previous hot weather season.

The inspectors selected two risk-significant systems that were required to be protected from seasonal high temperatures:

- emergency diesel generators including support ventilation systems
- standby service water system

The inspectors reviewed the licensee's procedures and design information to ensure the systems would remain functional when challenged by seasonal high temperatures. The inspectors verified that operator actions described in the licensee's procedures were adequate to maintain readiness of these systems. The inspectors walked down portions of these systems to verify the physical condition of the adverse weather protection features.

These activities constituted one sample of readiness for seasonal adverse weather, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walk-Down

a. Inspection Scope

The inspectors performed partial system walk-downs of the following risk-significant systems:

- April 12, 2016, high pressure core spray
- April 12, 2016, reactor core isolation cooling
- April 18, 2016, division 2 vital inverters E-IN-2A and E-IN-2B
- May 12, 2016, low pressure core spray
- June 11, 2016, division 1 emergency diesel generator lube oil and jacket water cooling

The inspectors reviewed the licensee's procedures and system design information to determine the correct lineup for the systems. They visually verified that critical portions of the systems were correctly aligned for the existing plant configuration.

These activities constituted five partial system walk-down samples as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Inspection

a. Inspection Scope

The inspectors evaluated the licensee's fire protection program for operational status and material condition. The inspectors focused their inspection on four plant areas important to safety:

- May 6, 2016, fire area DG-1, DG-7, and DG-10, diesel generator building various areas
- May 25, 2016, fire area R-1 and R-18, reactor building 522' elevation general area and motor control center area
- May 27, 2016, circulating water pump house, fire pumps 1, 2A, and 2B
- May 31, 2016, fire area TG-1, turbine building 501' elevation

For each area, the inspectors evaluated the fire plan against defined hazards and defense-in-depth features in the licensee's fire protection program. The inspectors evaluated control of transient combustibles and ignition sources, fire detection and suppression systems, manual firefighting equipment and capability, passive fire protection features, and compensatory measures for degraded conditions.

These activities constituted four quarterly inspection samples, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

On April 25, 2016, the inspectors completed an inspection of the readiness and availability of risk-significant heat exchangers. The inspectors reviewed the data from a performance test for the division 3 high pressure core spray diesel generator cooling water heat exchanger and observed the licensee's inspection of the heat exchanger and the material condition of the heat exchanger internals. Additionally, the inspectors walked down the heat exchanger to observe its performance and material condition.

These activities constituted completion of one heat sink performance annual review sample, as defined in Inspection Procedure 71111.07.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

.1 Review of Licensed Operator Requalification

a. Inspection Scope

On May 3, 2016, the inspectors observed an evaluated simulator scenario performed by an operating crew. The inspectors assessed the performance of the operators and the evaluators' critique of their performance. The inspectors also assessed the modeling and performance of the simulator during the requalification activities.

These activities constituted completion of one quarterly licensed operator requalification program sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.2 Review of Licensed Operator Performance

a. Inspection Scope

The inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened risk due to maintenance activities. The inspectors observed the operators' performance of the following activities:

- April 27, 2016, for Orange risk during high pressure core spray maintenance
- May 15, 2016, for a downpower during bypass valve testing
- May 22, 2016, for a downpower during a rod sequence exchange

In addition, the inspectors assessed the operators' adherence to plant procedures, including conduct of operations procedure and other operations department policies.

These activities constituted completion of one quarterly licensed operator performance sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed three instances of degraded performance or condition of safety-related structures, systems, and components (SSCs):

- April 18, 2016, emergency diesel generator 4 coolant leaks
- May 15, 2016, control rod 22-51 high drive pressure
- May 20, 2016, control rod 30-23 intermittent indication

The inspectors reviewed the extent of condition of possible common cause SSC failures and evaluated the adequacy of the licensee's corrective actions. The inspectors reviewed the licensee's work practices to evaluate whether these may have played a role in the degradation of the SSCs. The inspectors assessed the licensee's characterization of the degradation in accordance with 10 CFR 50.65 (the Maintenance Rule), and verified that the licensee was appropriately tracking degraded performance and conditions in accordance with the Maintenance Rule.

These activities constituted completion of three maintenance effectiveness samples, as defined in Inspection Procedure 71111.12.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed three risk assessments performed by the licensee prior to changes in plant configuration and the risk management actions taken by the licensee in response to elevated risk:

- April 24, 2016, Orange risk for high pressure core spray work under work order 02087400
- May 9, 2016, Green risk for service water pumphouse recirculation air fan work under work order 02082997
- May 18, 2016, Yellow risk during division 2 emergency diesel generator planned maintenance under work order 02083592

The inspectors verified that these risk assessment were performed timely and in accordance with the requirements of 10 CFR 50.65 (the Maintenance Rule) and plant procedures. The inspectors reviewed the accuracy and completeness of the licensee's risk assessments and verified that the licensee implemented appropriate risk management actions based on the result of the assessments.

These activities constituted completion of three maintenance risk assessments and emergent work control inspection samples, as defined in Inspection Procedure 71111.13.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed five operability determinations that the licensee performed for degraded or nonconforming SSCs:

- April 19, 2016, operability determination of division 2 emergency diesel generator for diesel cooling water expansion tank trend under Action Request (AR) 348094
- May 20, 2016, operability determination of rod position indication system while troubleshooting indications for control rod 30-23 under AR 349540
- June 8, 2016, operability determination of residual heat removal system flow controller RHR-FIS-10A under AR 350653
- June 11, 2016, operability determination of division 1 emergency diesel generators for jacket water immersion heater under AR 350795
- June 29, 2016, operability determination of division 3 emergency diesel generator starting air system under AR 351523

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSC to be operable, the inspectors verified that the licensee's compensatory measures were appropriate to provide reasonable assurance of operability. The inspectors verified that the licensee had considered the effect of other degraded conditions on the operability of the degraded SSC.

These activities constituted completion of five operability and functionality review samples as defined in Inspection Procedure 71111.15.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed five post-maintenance testing activities that affected risk-significant SSCs:

- April 1, 2016, post-maintenance testing of service water valve SW-V-187A under work order 02035844
- April 7, 2016, post-maintenance testing of reactor water level instrument, MS-LIS-24C, under work order 02087112

- April 23, 2016, post-maintenance testing of division 1 standby gas treatment system under work order 02082098
- May 15, 2016, post-maintenance testing of control rod 30-23 under work order 02083551
- May 19, 2016, post-maintenance testing of residual heat removal pump, RHR-P-3, under work order 02081553

The inspectors reviewed licensing- and design-basis documents for the SSCs and the maintenance and post-maintenance test procedures. The inspectors observed the performance of the post-maintenance tests to verify that the licensee performed the tests in accordance with approved procedures, satisfied the established acceptance criteria, and restored the operability of the affected SSCs.

These activities constituted completion of five post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

Introduction. The inspectors reviewed a Green, self-revealed, non-cited violation of Technical Specification 5.4.1.a, “Procedures,” for the licensee’s failure to follow procedure OI-41, “Operations Work Control Expectations,” Revision 59. Specifically, the licensee incorrectly marked steps of procedure OSP-FPC/IST-Q701, “Fuel Pool Cooling System Operability Surveillance,” Revision 34, as not applicable and therefore did not provide mechanical isolation between the non-safety reactor closed loop cooling system (RCC) and the safety-related standby service water (SW) system. As a result, on March 28, 2016, RCC was momentarily depressurized into the SW system and required a manual reactor scram due to a loss of RCC cooling for non-safety systems.

Description. On March 28, 2016, the licensee performed a post-maintenance test (PMT) associated with a service water isolation valve, SW-V-187A, used to isolate RCC from division 1 SW system and allows for diverse methods cooling of the division 1 fuel pool cooling heat exchanger, FPC-HX-1A. Under Work Order (WO) 02035844, the licensee cycled SW-V-187A fully open and shut while measuring the elapsed time. Section 4.7 of procedure OI-41, “Operations Work Control Expectations,” Revision 59, provides guidance on use of existing procedures for PMTs:

PMT work instructions can be developed using portions of an applicable surveillance or other test procedures, provided Operations and Engineering review the PMT work instructions for adequacy. Care is to be taken to ensure the PMT is performed with the right plant conditions. EXAMPLE: SW-V-188A is stroke time tested in OSP-FPC/IST-Q701. Do not simply cut and paste the steps out of the surveillance procedure that direct stroking SW-V-188A...ensure the PMT work order instructions will establish or verify the appropriate plant conditions are in place before the PMT is performed (i.e. in this example, ensure RCC is not flowing through FPC-HX-1A).

Note that SW-V-188A is a similar isolation valve between SW and RCC associated with the FPC-HX-1A. Consequently, the precautionary note is comparable to the situation that led to the reactor scram on March 28, 2016.

After completing the work associated with SW-V-187A, the on-shift operators in the control room implemented the PMT. The PMT guidance was developed in the work planning process by a licensed senior reactor operator (SRO) named the production SRO (PSRO). The PSRO determined that only steps 7.5.17 and 7.5.18, which cycled SW-V-187A open and shut, were required for the PMT. The on-shift operators did not question this guidance and marked preceding steps as not applicable or "n/a." Note that steps 7.5.4 and 7.5.5, both marked "n/a," require shutting RCC-V-129 and RCC-V-130 which provide mechanical isolation between RCC and SW to enable successful cycling of SW-V-187A.

When SW-V-187A was opened, the RCC system depressurized into the idle SW system and caused a loss of RCC cooling to non-safety components including reactor recirculation pumps, drywell air coolers, and the non-regenerative heat exchanger in the reactor water cleanup system. Coincident with the valve cycling, the control room received alarms for low pressure and low surge tank level in the RCC system. In accordance with the abnormal procedure, ABN-RCC, "Loss of RCC," Revision 6, operators inserted a manual reactor scram since all RCC flow was lost. Per the bases of this procedure, a complete loss of RCC can result in high drywell pressure and requires tripping the recirculation pumps to prevent overheating the pumps.

After the scram, the licensee shut SW-V-187A, recovered RCC parameters, and completed required post-trip actions. The scram is considered uncomplicated since the licensee did not require use of any emergency core cooling systems and experienced no significant component failures during the transition to Mode 3. The NRC resident inspectors responded to the control room for the scram and observed recovery activities.

The inspectors concluded that both the PSRO, who approved the PMT during the work planning process, and the on-shift SRO, who implemented the PMT work order, failed to follow procedure OI-41. These failures then led to the loss of RCC conditions which required a reactor scram. The inspectors noted that step 4.1 of procedure OI-41 was also not met which states, "SRO's will authorize...work only upon reaching a thorough understanding of its impact."

As immediate corrective actions, the licensee inserted a manual reactor scram, recovered the RCC system, relieved the operating crew for an event investigation, and stabilized the plant in Mode 3. The licensee entered this issue into their corrective action program as Action Request 346945.

Analysis. The failure to follow procedure OI-41, "Operations Work Control Expectations," Revision 59, was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because it adversely affected the configuration control attribute of the Initiating Events Cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 1, "Initiating Events Screening Questions," dated June 19, 2012, the inspectors determined the finding was of very low safety significance

(Green) because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The finding had a cross-cutting aspect in the area of human performance associated with avoiding complacency because the licensee failed to recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes including implementing appropriate error reduction tools. Specifically, licensed operators failed to recognize the possible latent issues and inherent risk of marking large portions of a procedure as “not applicable.” [H.12]

Enforcement. Technical Specification 5.4.1.a requires, in part, that written procedures shall be established, implemented and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2. Section 9.a of Appendix A of Regulatory Guide 1.33, Revision 2, requires procedures for performing maintenance on safety-related equipment. The licensee established procedure OI-41, “Operations Work Control Expectations,” Revision 59, to meet the Regulatory Guide 1.33 requirement. Section 4.7 of procedure OI-41 requires the PMT work order instructions will establish or verify the appropriate plant conditions are in place before the PMT is performed. Contrary to the above, on March 28, 2016, the licensee did not ensure that the PMT work order instructions will establish or verify the appropriate plant conditions are in place before the PMT is performed. Specifically, the licensee incorrectly marked steps of procedure OSP-FPC/IST-Q701, “Fuel Pool Cooling System Operability Surveillance,” Revision 34, as not applicable and therefore did not provide mechanical isolation between the non-safety reactor closed loop cooling system (RCC) and the safety-related standby service water (SW) system. As a result of this incorrect activity, on March 28, 2016, RCC was momentarily depressurized into the SW system and required a manual reactor scram due to a loss of RCC cooling for non-safety systems. As an immediate corrective action, the licensee inserted a manual reactor scram, recovered the RCC system, relieved the operating crew for an event investigation, and stabilized the plant in Mode 3. The licensee entered this issue into their corrective action program as Action Request 346945. Because this finding is of very low safety significance (Green) and was entered into the licensee’s corrective action program, this violation is being treated as a non-cited violation consistent with Section 2.3.2 of the NRC Enforcement Policy. NCV 05000397/2016002-01, “Loss of RCC Cooling Requiring a Reactor Scram”

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed five risk-significant surveillance tests and reviewed test results to verify that these tests adequately demonstrated that the SSCs were capable of performing their safety functions:

In-service tests:

- April 4, 2016, quarterly surveillance test on scram discharge volume valves

Other surveillance tests:

- April 7, 2016, quarterly surveillance test on standby service water spray pond sediment depth

- May 4, 2016, quarterly surveillance test on reactor protection system relays for turbine governor valve fast closure
- May 14, 2016, monthly main turbine bypass valve test
- May 14, 2016, periodic control rod scram time surveillance test

The inspectors verified that these tests met technical specification requirements, that the licensee performed the tests in accordance with their procedures, and that the results of the test satisfied appropriate acceptance criteria. The inspectors verified that the licensee restored the operability of the affected SSCs following testing.

These activities constituted completion of five surveillance testing inspection samples, as defined in Inspection Procedure 71111.22.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors observed the licensee's March 29, 2016, biennial emergency preparedness exercise to verify the exercise acceptably tested the major elements of the emergency plan and provided opportunities for the emergency response organization to demonstrate key skills and functions. To demonstrate the licensee's capability to implement its emergency plan, the scenario simulated the following:

- A loss of offsite power lines to the site
- A main generator trip
- A loss of two emergency diesel generators
- An operating basis earthquake and subsequent aftershock
- Failures of control switches for two valves
- Escalating fuel damage because of physical shock
- An unisolable steam line leak outside of containment creating a filtered and monitored radiological release to the environment via the standby gas treatment system and main plant stack

During the exercise the inspectors observed activities in the Control Room Simulator and the following emergency response facilities:

- Technical Support Center

- Operations Support Center
- Emergency Operations Facility

The inspectors focused their evaluation of the licensee's performance on the risk-significant activities of event classification, offsite notification, recognition of offsite dose consequences, and development of protective action recommendations.

The inspectors also assessed recognition of, and response to, abnormal and emergency plant conditions, the transfer of decision-making authority and emergency function responsibilities between facilities, onsite and offsite communications, protection of emergency workers, emergency repair evaluation and capability, and the overall implementation of the emergency plan to protect public health and safety, and the environment. The inspectors reviewed the current revision of the facility emergency plan, emergency plan implementing procedures associated with operation of the licensee's emergency response facilities, procedures for the performance of associated emergency functions, and other documents as listed in the attachment to this report.

The inspectors attended the post-exercise critiques in each emergency response facility to evaluate the initial licensee self-assessment of exercise performance. The inspectors also attended a subsequent formal presentation of critique items to plant management.

The inspectors reviewed the scenarios of previous biennial exercises and licensee drills conducted between September 2014 and February 2016, to determine whether the March 29, 2016, exercise was independent and avoided participant preconditioning, in accordance with the requirements of 10 CFR 50, Appendix E, IV.F(2)(g). The inspectors also compared observed exercise performance with corrective action program entries and after-action reports for drills and exercises conducted between September 2014 and February 2016 to determine whether identified performance weaknesses had been corrected in accordance with the requirements of 10 CFR 50.47(b)(14) and 10 CFR Part 50, Appendix E, IV.F.

These activities constituted one exercise evaluation sample as defined in Inspection Procedure 71114.01.

b. Findings

No findings were identified.

1EP8 Exercise Evaluation – Scenario Review (71114.08)

a. Inspection Scope

The licensee submitted the preliminary exercise scenario for the March 29, 2016, biennial exercise to the NRC on January 18, 2016, in accordance with the requirements of 10 CFR Part 50, Appendix E, IV.F(2)(b). The inspectors performed an in-office review of the proposed scenario to determine whether it would acceptably test the major elements of the licensee's emergency plan, and provide opportunities for the emergency response organization to demonstrate key skills and functions.

These activities constituted one scenario evaluation sample as defined in Inspection Procedure 71114.08.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Security

40A1 Performance Indicator Verification (71151)

.1 Safety System Functional Failures (MS05)

a. Inspection Scope

For the period of May 1, 2015 through June 1, 2016, the inspectors reviewed licensee event reports (LERs), maintenance rule evaluations, and other records that could indicate whether safety system functional failures had occurred. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, and NUREG-1022, "Event Reporting Guidelines: 10 CFR 50.72 and 50.73," Revision 3, to determine the accuracy of the data reported.

These activities constituted verification of the safety system functional failures performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspectors reviewed the licensee's evaluated exercises and selected drill and training evolutions, that occurred between January and December 2015, to verify the accuracy of the licensee's data for classification, notification, and protective action recommendation (PAR) opportunities. The inspectors reviewed a sample of the licensee's completed classifications, notifications, and PARs to verify their timeliness and accuracy. The inspectors used Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the drill/exercise performance, performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.3 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspectors reviewed the licensee's records for participation in drill and training evolutions between January and December 2015 to verify the accuracy of the licensee's data for drill participation opportunities. The inspectors verified that all members of the licensee's emergency response organization (ERO) in the identified key positions had been counted in the reported performance indicator data. The inspectors reviewed the licensee's basis for reporting the percentage of ERO members who participated in a drill. The inspectors reviewed drill attendance records and verified a sample of those reported as participating. The inspectors used Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the emergency response organization drill participation performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.4 Alert and Notification System Reliability (EP03)

a. Inspection Scope

The inspectors reviewed the licensee's records of alert and notification system tests conducted between January and December 2015 to verify the accuracy of the licensee's data for siren system testing opportunities. The inspectors reviewed procedural guidance on assessing alert and notification system opportunities and the results of periodic alert and notification system operability tests. The inspectors used Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the alert and notification system reliability performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

40A2 Problem Identification and Resolution (71152)

.1 Routine Review

a. Inspection Scope

Throughout the inspection period, the inspectors performed daily reviews of items entered into the licensee's corrective action program and periodically attended the licensee's condition report screening meetings. The inspectors verified that licensee personnel were identifying problems at an appropriate threshold and entering these problems into the corrective action program for resolution. The inspectors verified that the licensee developed and implemented corrective actions commensurate with the significance of the problems identified. The inspectors also reviewed the licensee's problem identification and resolution activities during the performance of the other inspection activities documented in this report.

b. Findings

No findings were identified.

.2 Semiannual Trend Review

a. Inspection Scope

The inspectors reviewed the licensee's corrective action program, performance indicators, system health reports, and other documentation to identify trends that might indicate the existence of a more significant safety issue. The inspectors verified that the licensee was taking corrective actions to address identified adverse trends.

These activities constituted completion of one semiannual trend review sample, as defined in Inspection Procedure 71152.

b. Observations and Assessments

On April 4, 2016, the inspectors reviewed the calibration of instruments used in abnormal and emergency procedures to make decisions including timelines for implementing action. To verify that the licensee was taking corrective actions to address identified adverse trends that might indicate the existence of a more significant safety issue, the inspectors reviewed related corrective action program Action Requests (ARs).

- Instruments without periodic calibration ARs: 344557, 349409, 350247
- Abnormal and emergency procedures referencing the uncalibrated instruments AR: 347262

In the case of instruments without periodic calibration maintenance activities, the inspectors determined that the associated systems were not adversely affected. Specifically, instruments for emergency diesel generator ventilation were ultimately found to be within calibration tolerance and instruments associated with the control room emergency chillers provided indication-only without an active safety-function. Based upon these results, the inspectors determined that the abnormal and emergency procedures referencing uncalibrated instruments would provide the correct actions for a plant event. The inspectors noted that the licensee appropriately considered extent of

condition and cause when scheduling corrective action assignments for these ARs. These actions include a global review of all abnormal procedures for additional instruments that may be uncalibrated and relied upon during events.

The inspectors assessed the licensee's problem identification threshold, cause analyses, and compensatory actions. The inspectors verified that the licensee appropriately prioritized the planned corrective actions and that these actions were adequate to correct the condition.

c. Findings

No findings were identified.

.3 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors selected one issue for an in-depth follow-up:

- From May 16 through June 13, 2016, during an in-office inspection, the inspectors reviewed the five cyber-security related issues documented in Inspection Report 05000397/2013406 for an in depth follow-up. The inspectors reviewed procedures, digital asset listings, and corrective action documents. The inspectors interviewed personnel involved in implementing the corrective actions.

The inspectors assessed the licensee's cause analyses, extent of condition reviews, and compensatory actions. The inspectors verified that the licensee appropriately prioritized the planned corrective actions and that these actions were appropriate.

These activities constituted completion of one annual follow-up sample as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) LER 05000397/2016-001-00: Manual Reactor Scram Following Loss of Reactor Closed Cooling

On March 28, 2016, the licensee inserted a manual reactor scram due to a loss of the non-safety reactor closed cooling (RCC) system. The loss of RCC was due to inadequate mechanical isolation between RCC and the safety-related standby service water (SW) system during post-maintenance testing of a SW valve. The scram was uncomplicated and RCC was recovered without adverse impact to cooled components.

This issue was dispositioned as a Green non-cited violation in Section 1R19 of this report. This licensee event report is closed.

These activities constituted completion of one event follow-up sample, as defined in Inspection Procedure 71153.

40A6 Meetings, Including Exit

Exit Meeting Summary

On February 19, 2016, the emergency preparedness inspectors discussed the in-office review of the preliminary scenario for the 2016 biennial exercise, submitted January 18, 2016, with Mr. S. Clizbe, Manager, Emergency Planning, and other members of the licensee staff. The licensee acknowledged the issues presented.

On April 5, 2016, the emergency preparedness inspectors presented the results of the onsite inspection of the biennial emergency preparedness exercise conducted March 29, 2016, to Mr. R. Prewett, Manager, Operations, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On June 13, 2016, the cyber-security inspectors presented the inspection results to Mr. D. Gregoire, Manager, Regulatory Affairs and Performance Improvement, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors did not review any proprietary information.

On July 7, 2016, the resident inspectors presented the inspection results to you, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

40A7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as non-cited violations.

- Title 10 of the Code of Federal Regulations, Part 50.54(q)(2), requires, in part, that a power reactor licensee follow and maintain the effectiveness of an approved emergency plan which meets the requirements of Appendix E to Part 50, and the planning standards of 10 CFR 50.47(b). The Columbia Emergency Plan, Revision 62, Section 8.7.3, requires a periodic drill involving the response to a simulated injury with contamination. The Columbia Emergency Plan, Revision 62, Table 8-1, defines the drill periodicity as annual. Contrary to the above, between January 1, 2015, and December 31, 2015, Columbia Generating Station failed to follow and maintain the effectiveness of an approved emergency plan which meets the requirements of Appendix E to Part 50, and the planning standards of 10 CFR 50.47(b). Specifically, Columbia Generating Station failed to perform a drill involving the response to a contaminated and injured persons during the annual period, 2015, as required by the Columbia Generating Station Emergency Plan, Revision 62. The violation was more than minor because the performance deficiency adversely affected the Emergency Preparedness cornerstone

objective and was associated with the ERO performance cornerstone attribute. The violation was assessed using MC 0609, Appendix B, "Emergency Preparedness Significance Determination Process," dated September 23, 2014, and was determined to be of very low safety significance (Green), because it was a failure to comply with NRC requirements, was not a risk-significant planning standard issue, and was not a degraded or lost planning standard function. The violation was entered into the licensee's corrective action program as Action Requests 00342463 and 00347490.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

S. Abney, Assistant Manager, Operations
A. Black, General Manager
O. Brooks, Emergency Preparedness Coordinator
D. Brown, Manager, System Engineering
S. Cooper, Plant Fire Marshal
S. Clizbe, Manager, Emergency Preparedness
D. Gregoire, Manager, Regulatory Affairs and Performance Improvement
G. Hettel, Vice President, Operations
G. Higgs, Manager, Maintenance
M. Hummer, Licensing Engineer
A. Javorik, Vice President, Engineering
M. Kellett, Assistant to the Vice President, Operations
D. Kovacs, Chief Information Officer
C. Moon, Manager, Quality
B. Pease, Manager, Emergency Services
G. Pierce, Manager, Training
R. Prewett, Operations Manager
B. Schuetz, Plant General Manager
D. Stevens, Assistant Manager, Operations
D. Suarez, Regulatory Compliance Engineer
K. Sykes, Program Manager, Cyber Security Program
K. Van Speybroek, EFIN Supervisor
L. Williams, Licensing Supervisor
D. Wolfgramm, Compliance Supervisor, Regulatory Affairs
G. Wyatt, Supervisor, Simulator and Examination Group
J. Zielinski, Cable Condition Monitoring Program Manager

NRC Personnel

R. Deese, Senior Reactor Analyst
M. Tobin, Resident Inspector, DRP/E

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000397/2016002-01 NCV Loss of RCC Cooling Requiring a Reactor Scram (Section 1R19)

Closed

05000397/2016-001-00 LER Manual Reactor Scram Following Loss of Reactor Closed Cooling (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
13.1.1	Classifying the Emergency	47
ABN-ELEC-GRID	Degraded Off Site Power Grid	7
SOP-HOTWEATHER-OPS	Hot Weather Operations	6
SOP-WARMWEATHER-OPS	Warm Weather Operations	11

Action Requests (ARs)

346593	349679	349751	349830	350319
350457	350502	351053	351501	350487

Section 1R04: Equipment Alignment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ABN-HVAC	HVAC Trouble	12
OSP-ELEC-W102	Electrical Distribution Systems Breaker Alignment and Power Availability Verification	28
SOP-ELEC-IN2-START	IN2 Startup	3
SOP-DG1-LU	Emergency Diesel Generator (Div 1) Valve and Power Supply Lineup	4
SOP-DG1-STBY	Emergency Diesel Generator (Div1) Standby Lineup	20
SOP-HPCS-LU	HPCS Valve and Breaker Lineup	3
SOP-LPCS-LU	LPCS Valve and Breaker Lineup	3
SOP-SW-LU	Standby Service Water System Valve & Breaker Lineup	6

Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2.05.01	Battery Sizing, Voltage Drop, and Charger Studies for Div. 1 & 2 Systems	12
ME-02-91-50	Sizing of DG 1A/1 Water Reservoir Tanks	2

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	SolidState Controls Inc. Instruction/Technical Manual	April 2001
DBD 309	Standby Service Water System	16

Action Requests (ARs)

330712	330814	332621	332673	339555
339680	342980	343551	344332	344425
346491	348324	349739	343440	343393
344209	344211	346277	348132	348051
346219	345385	345316		

Section 1R05: Fire Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
NFPF-B30	Non Power-Block Pre-Fire Plan – Circulating Water Pump house	6
PFP-DG-Building	Pre-fire Plan: Diesel Generator Building	4
PFP-RB-522	Pre-fire Plan: Reactor 522	5
PFP-TG-501	Pre-fire Plan: Turbine Generator 501	5
SOP-DG3-START	High Pressure Core Spray Diesel Generator Start	25

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
BI-15-0209	Barrier Impairment	7/12/15

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
NFPA-13	Standard for Installation of Sprinkler Systems	2016

Action Requests (ARs)

349182	333012	320725	346861	343441
349829	347990	346989	346476	350025
349642				

Section 1R07: Heat Sink Performance

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.76	Integrated Risk Management	46
4.DG3	DG3 Annunciator Panel Alarms	19
10.1.13	Foreign Material Controls for Systems and Components	26
ABN-ELEC- LOOP	Loss of All Off-Site Electrical Power	15

Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ME-02-92-49	Calculation for HPCS Diesel Engine Cooling Water Heat Exchanger	0
ME-02-91-50	Sizing of DG 1A/1 Water Reservoir Tanks	2

Work Orders (WOs)

02080164

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
IMDS	Instrument Master Data Sheet: DCW-TS-4	4

Action Requests (ARs)

299342	301281	301359	301372	303012
313342	321888	322051	322545	331326
348405				

Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OI-9	Operations Standards and Expectation	63
1.3.1	Operating Policy, Programs, and Practices	120
13.1.1	Classifying the Emergency	47
5.1.1	RPV Control	21
5.2.1	Primary Containment Control	23
5.3.1	Secondary Containment Control	20

Action Requests (ARs)

347010	347124	347625	347956	349041
349277	345065	343155		

Section 1R12: Maintenance Effectiveness

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ABN-ROD	Control Rod Faults	27
1.5.11	Maintenance Rule Program	14
OI-53	Offsite Power	13
SOP-DG4-PM	Diesel Generator 4 Monthly/Quarterly Surveillance	4

Action Requests (ARs)

347387	348135	349540	349761	351286
351358	347072			

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.5.14	Risk Assessment and Management/Surveillance Activities	38
WCI-4	Online Work Control Process	48

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.5.14	Risk Assessment and Management/Surveillance Activities	38
1.3.76	Integrated Risk Management	44
1.3.83	Protected Equipment Program	11
1.5.14	Risk Assessment and Management for Maintenance/Surveillance Activities	37

Work Orders (WOs)

02087400 02082997 02083592

Action Requests (ARs)

348631 326919 329491 333041 339552
340927 348557 350833 346340 345942
346526

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.66	Operability and Functionality Evaluation	33
10.25.53	Inspection of Lighting Panels and Power Panels	12
OI-9	Operations Standards and Expectation	63
OI-14	Columbia Generating Station Operational Challenges and Risk Program	13
OSP-ELEC-W102	Electrical Distribution Subsystem Breaker Alignment and Power Availability Verification	28

Action Requests (ARs)

332078 350653 350712 351523 351430
348853 348203 347477 347646 346503
345667 343894

Section 1R19: Post-Maintenance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OI-41	Operations Work Control Expectations	59
OSP-FPC/IST-Q701	Fuel Pool Cooling System Operability Surveillance	34
SOP-RHR-STBY	Placing RHR in Standby Status	4
OSP-SGT-M701	Standby Gas Treatment System A Operability	15

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EWD-47E-033	Electrical Wiring Diagram Standby AC Power System Diesel Generator 2 Excitation System	7
EWD-47E-046	Electrical Wiring Diagram Standby AC Power System Diesel Generator 1 Governor Speed Control	12

Work Orders (WOs)

02035844	02081553	02083551	02082098	02087112
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Action Requests (ARs)

346945	347561	348275	349761	349540
348312	348204	347685	347684	347573
345271	345266	345145		

Section 1R22: Surveillance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ISP-RPS-Q901	RPS (Channel A1) and EOC Recirc Pump Trip – TGV Fast Closure RPS-PS-5A – CFT/CC	9
OSP-CRD/IST-Q701	Scram Discharge Volume Vent and Drain Valves Operability	7
OSP-MS-M701	Bypass Valves Test	10
OSP-SW-Q101	Spray Pond Average Sediment Depth Measurement	10
TSP-CRD-C101	CRD Scram Timing with Auto Scram Timer System	25

Action Requests (ARs)

347410	347403	341858	335379	332097
327082	321876	60975	307521	324093
337287	339600	347541		

Section 1EP1: Exercise Evaluation (71114.01)

Procedures and Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EPI-17	After Action Report, Improvement Plan Formatting, Distribution, and Retention, December 9, 2013	8-1
EPI-21	Drill and Exercise Development and Implementation, March 24, 2015	16-1
EPI-30	Emergency Preparedness Condition Report Processing, March 16, 2011	2
EPIP 13.1.1	Classifying the Emergency, August 7, 2015	47-1
EPIP 13.1.1A	Classifying the Emergency, Technical Bases, August, 7, 2015	31-1
EPIP 13.2.1	Emergency Exposure Levels, Protective Action Guides, March 9, 2015	22
EPIP 13.2.2	Determining Protective Actions, January 5, 2016	19
EPIP 13.4.1	Emergency Notifications, February 17, 2016	43-2
EPIP 13.5.1	Local, Protected Area, or Site Evacuation, August 12, 2014	29
EPIP 13.9.1	Environmental Field Monitoring Operations, February 17, 2016	44-3
EPIP 13.10.1	Control Room Operator and Shift Manager Duties, June 9, 2015	35-3
EPIP 13.10.2	TSC Manager Duties, June 9, 2015	35-2
EPIP 13.10.9	Operations Support Center Manager and Staff Duties, June 9, 2015	49-2
EPIP 13.11.1	EOF Manager Duties, June 9, 2015	44-1
EPIP 13.13.1	Reentry Operations, December 7, 2009	10
EPIP 13.13.3	Intermediate Phase MUDAC Operations, June 9, 2015	18
EPIP 13.13.4	After Action Reporting, December 15, 2015	10-2
EPIP 13.14.9	Drill and Exercise Program, January 22, 2015	18

Procedures and Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
	Evaluation Report for the October 28, 2014, Exercise	
	Evaluation Report for the February 24, 2015, Exercise	
	Evaluation Report for the July 7, 2015, Exercise	
	Evaluation Report for the September 1, 2015, Exercise	
	Evaluation Report for the October 27, 2015, Exercise	

Corrective Action Program (Action Requests)

00315844	00316055	00316465	00316712	00316743
00316744	00316763	00316764	00317974	00319647
00322766	00322781	00323713	00324901	00324910
00325524	00326719	00331799	00334070	00338155
00338676	00339157	00339737	00342463	00347021
00347029	00347030	00347036	00347038	00347050
00347124	00347129	00347484	00347491	00347503

Section 1EP4: Emergency Action Level and Emergency Plan Changes (71114.04)

Procedures and Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EPI-16	50.54(Q) Change Evaluation, January 27, 2016	14

Corrective Action Program (Action Request)

00339031

Section 1EP8 Exercise Evaluation – Scenario Review (71114.08)

No additional documents were reviewed

Section 4OA1: Performance Indicator Verification

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EPI-13	Emergency Notification System, November 27, 2011	7-1
EPI-14	Actions in the Event of an Automated Notification System Failure, June 27, 2012	7

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EPI-18	Emergency Preparedness Performance Indicators, January 7, 2015	22
EPI-26	Tone Alert Radio Test and Survey, February 23, 2012	2
NEI 99-02	Regulatory Assessment Performance Indicator Guidelines	6

Action Requests (ARs)

323709 342680 339031

Section 40A2: Problem Identification and Resolution

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ABN-ASH	Ash Fall	23
ABN-ELEC-LOOP	Loss of All Off-site Electrical Power	15
ISDI-CYBER-17	Cyber Vulnerability Scanning	0
SOP-RHR-SPC	Suppression Pool Cooling/Spray/Discharge/Mixing	8
SOP-RHR-SPC-QC	Placing RHR Loop A(B) in Suppression Pool Cooling – Quick Card	4
SWP-CSW-12	Cyber Security Defensive Strategy	2
SWP-CSW-15	Portable Media and Digital Device Use	8

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EC 12136	Defensive Strategy Diagram Defensive Strategy Level Upgrades	5

Action Requests (ARs)

349409 344557 346054 345316 350247
249961 280268 281250 281324 282235
282450 282941 282942 282943 283117
283118 283179 283250 283251 283295

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

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ABN-RCC	Loss of RCC	6
OI-41	Operations Work Control Expectations	59
OSP-FPC/IST-Q701	Fuel Pool Cooling System Operability Surveillance	34

Action Requests (ARs)

346945	347561	347573	347833	348275
349110				