



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

August 7, 2017

Mr. Bryan C. Hanson
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

**SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT – INTEGRATED
INSPECTION REPORT 05000333/2017002**

Dear Mr. Hanson:

On June 30, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the James A. FitzPatrick Nuclear Power Plant (FitzPatrick). On July 20, 2017, the NRC inspectors discussed the results of this inspection with Mr. Joseph Pacher, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement; and the NRC Resident Inspector at FitzPatrick. In addition, if you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement 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 U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC, 20555-0001; with copies to the Regional Administrator, Region I, and the NRC Resident Inspector at FitzPatrick.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Arthur L. Burritt, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket No. 50-333
License No. DPR-59

Enclosure:
Inspection Report 05000333/2017002
w/Attachment: Supplementary Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 50-333

License No. DPR-59

Report No. 05000333/2017002

Licensee: Exelon Generation Company, LLC (Exelon)

Facility: James A. FitzPatrick Nuclear Power Plant

Location: Scriba, NY

Dates: April 1, 2017, through June 30, 2017

Inspectors: K. Kolaczyk, Senior Resident Inspector
B. Sienel, Acting Senior Resident Inspector
G. Stock, Acting Resident Inspector
P. Ott, Operations Engineer
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R. Rolph, Health Physicist

Approved By: Arthur L. Burritt, Chief
Reactor Projects Branch 5
Division of Reactor Projects

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SUMMARY

IR 05000333/2017002; 04/01/2017 – 06/30/2017; James A. FitzPatrick Nuclear Power Plant (FitzPatrick); Follow-Up of Events and Notices of Enforcement Discretion

This report covered a 3-month period of inspection by resident inspectors and announced baseline inspections performed by regional inspectors. The inspectors identified one non-cited violation (NCV), which was of very low safety significance (Green). The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated October 28, 2016. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated November 1, 2016. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

Cornerstone: Barrier Integrity

- Green. A self-revealing Green NCV of Technical Specification (TS) 3.7.3, "Control Room Emergency Ventilation Air Supply (CREVAS) System," and TS 3.7.4, "Control Room Air Conditioning (AC) System," was identified for the failure to declare one subsystem of the control room AC and CREVAS systems inoperable. Specifically, on August 16, 2016, control room operators failed to declare the 'A' CREVAS and 'A' control room AC subsystems inoperable due to a degraded damper actuator. As a result, the 'A' CREVAS and 'A' control room AC subsystems were inoperable from August 16, 2016, until a compensatory measure to assist the damper linkage by hand as needed was implemented on September 19, 2016, which exceeded the TS allowed outage time. On October 4, 2016, FitzPatrick personnel replaced the actuator. This issue was entered into the corrective action program (CAP) as JAF-CR-2016-3593.

The performance deficiency is more than minor because it is associated with the structure, system, and component (SSC) and barrier performance attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, this resulted in the 'A' control room AC and 'A' CREVAS subsystems being inoperable from August 16, 2016, to September 19, 2016, and the exceedance of the allowable TS out-of-service times. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 3 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency did not represent a degradation of the radiological barrier function provided for the control room, and the finding did not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere (i.e. the 'B' train of both subsystems remained operable). This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because FitzPatrick personnel failed to thoroughly evaluate the problem such that resolution addressed the cause. Specifically, FitzPatrick failed to fully evaluate the degraded condition during troubleshooting following the failed post-maintenance test (PMT) on August 16, 2016. Thorough testing and evaluation of the degraded actuator would have led to the identification of the need for replacement to restore the damper and its actuator to fully operable status. [P.2] (Section 4OA3)

REPORT DETAILS

Summary of Plant Status

FitzPatrick began the inspection period at 100 percent power. On April 8, 2017, operators performed a planned power reduction to 13 percent to investigate an increase in total drywell leakage. Following repair of the leak in containment, operators began power ascension on April 10 and returned the unit to 100 percent power on April 13. Operators performed a downpower to approximately 56 percent on April 14 to perform a subsequent control rod pattern adjustment and restored power to 100 percent later that day. On April 22, operators performed a planned power reduction to approximately 54 percent to repair a 'B' feedwater pump suction relief valve leak. Following repairs, power was restored to 100 percent on April 24. Operators performed a downpower to approximately 77 percent on April 25 to perform a subsequent control rod pattern adjustment and restored power to 100 percent later that day. On May 12, operators performed a planned power reduction to 63 percent to perform power suppression testing for a reactor fuel leak. The leak was suppressed by inserting two control rods. Power was restored to 100 percent on May 15. Operators performed a downpower to approximately 50 percent on May 16 to perform a subsequent control rod pattern adjustment and restored power to 100 percent on May 18. The unit remained at or near 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 3 samples)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

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

b. Findings

No findings were identified.

.2 Summer Readiness of Offsite and Alternate Alternating Current Power Systems

a. Inspection Scope

The inspectors reviewed plant features and procedures for the operation and continued availability of the offsite and alternate alternating current power system to evaluate readiness of the systems prior to seasonal high grid loading. The inspectors reviewed Exelon's procedures affecting these areas and the communications protocols between the transmission system operator and Exelon. This review focused on changes to the established program and material condition of the offsite and alternate alternating current power equipment. The inspectors assessed whether Exelon established and implemented appropriate procedures and protocols to monitor and maintain availability and reliability of both the offsite alternating current power system and the onsite alternate alternating current power system. The inspectors evaluated the material condition of the associated equipment by interviewing the responsible system engineer, reviewing condition reports (CRs) and issue reports (IRs), and walking down portions of the offsite and alternating current power systems including the 115 kilovolt (kV) switchyard and transformer yard.

b. Findings

No findings were identified.

.3 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

The inspectors reviewed Exelon's preparations for the tornado watch on May 1, 2017. The inspectors reviewed the implementation of adverse weather preparation procedures before the onset of and during this adverse weather condition. The inspectors walked down the EDG and emergency service water (ESW) systems to ensure system availability. The inspectors verified that operator actions defined in Exelon's adverse weather procedure maintained the readiness of essential systems. The inspectors also discussed the adverse weather response with operations personnel.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04 – 5 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- Reactor core isolation cooling during planned high pressure coolant injection (HPCI) maintenance on April 18, 2017
- 'B/D' EDGs during 115 kV Line 4 and transformer 71T-3 planned maintenance on April 26, 2017

- 'A' core spray during planned maintenance on 'B' residual heat removal (RHR) and residual heat removal service water (RHRSW) systems on May 3, 2017
- 'B' RHR during planned maintenance on 'A' RHR the week of May 22, 2017
- 'A/C' EDG during planned 'B' EDG maintenance the week of June 5, 2017

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

b. Findings

No findings were identified.

.2 Full System Walkdown (71111.04S – 2 samples)

a. Inspection Scope

On June 22 and 29, 2017, the inspectors performed complete walkdowns of accessible portions of the standby liquid control and 125 VDC (volts direct current) systems, respectively, to verify the existing equipment lineup was correct. The inspectors reviewed operating procedures, surveillance tests, drawings, equipment line-up check-off lists, and the UFSAR to verify the systems were aligned to perform their required safety functions. The inspectors also reviewed electrical power availability, component lubrication and equipment cooling, hanger and support functionality, preventive maintenance records, and operability of support systems. The inspectors performed field walkdowns of accessible portions of the systems to verify as-built system configuration matched plant documentation, and that system components and support equipment remained operable. The inspectors confirmed that systems and components were aligned correctly, free from interference from temporary services or isolation boundaries, environmentally qualified, and protected from external threats. The inspectors also examined the material condition of the components for degradation and observed operating parameters of equipment to verify that there were no deficiencies. Additionally, the inspectors reviewed a sample of related CRs and work orders (WOs) to ensure Exelon appropriately evaluated and resolved any deficiencies.

b. Findings

No findings were identified.

1R05 Fire ProtectionResident Inspector Quarterly Walkdowns (71111.05Q – 5 samples)a. Inspection Scope

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

- 'A' train EDG and switchgear rooms, fire area/zones V/EG-1, EG-2, and EG-5 on June 6, 2017
- 'B' train EDG and switchgear rooms, fire area/zones VI/ EG-3, EG-4, and EG-6 on June 15, 2017
- Main control room, fire area/zone VII/CR-1 on June 28, 2017
- East cable tunnel, fire area/zone II/CT-2 on June 30, 2017
- West cable tunnel, fire area/zone IC/CT-1 on June 30, 2017

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07A – 1 sample)a. Inspection Scope

The inspectors reviewed the 'B' EDG jacket water heat exchanger, 93WE-1B, readiness and availability to perform its safety function. The inspectors reviewed the design basis for the component and verified Exelon's commitments to NRC Generic Letter 89-13, "Service Water System Requirements Affecting Safety-Related Equipment." The inspectors observed the condition of the heat exchanger during planned inspection and eddy current testing the week of June 6, 2017. The inspectors reviewed the eddy current report for 93WE-1B, discussed the results with engineering staff, and verified that Exelon initiated appropriate corrective actions for identified deficiencies. The inspectors also verified that the number of tubes plugged within the heat exchanger did not exceed the maximum amount allowed.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program and Licensed Operator Performance
(71111.11A – 3 samples)

.1 Quarterly Review of Licensed Operator Regualification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on May 2, 2017, which included a fuse failure on a safety/relief valve, a lockup of the 'A' feedwater pump, a turbine building closed loop cooling to service water leak, an unanticipated Group 1 isolation, and a RHR system line break resulting in reactor building flooding. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the TS action statements entered by the shift technical advisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

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

a. Inspection Scope

On April 8, 2017, operators commenced a power reduction to thirteen percent to facilitate a drywell entry to address increased drywell leakage. The inspectors observed portions of the downpower, including crew briefings, reactivity manipulations using control rods, and a manual trip of the main turbine. The inspectors observed crew performance to verify that procedure use, crew communications, and coordination of activities between work groups met established expectations and standards.

b. Findings

No findings were identified.

.3 Licensed Operator Regualification Program

a. Inspection Scope

On May 22, 2017, one NRC region-based inspector conducted an in-office review of results of the licensee-administered comprehensive written examinations and annual operating tests for 2017 for FitzPatrick operators. The inspection assessed whether pass/fail rates were consistent with the guidance of IMC Chapter 0609, Appendix I, "Operator Regualification Human Performance Significance Determination Process." The review verified that the failure rate (individual or crew) did not exceed 20 percent.

- One out of 36 operators failed at least one section of the annual exam. The overall individual failure rate was 2.8 percent.
- None of the six crews failed the simulator test. The crew failure rate was 0.0 percent.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 1 sample)

a. Inspection Scope

The inspectors reviewed the sample listed below to assess the effectiveness of maintenance activities on SSC performance and reliability. The inspectors reviewed applicable CAP documents, WOs, and maintenance rule basis documents to ensure that Exelon was identifying and properly evaluating performance problems within the scope of the maintenance rule.

- Commercial grade dedication of replacement ESW strainer basket valve stem on June 20, 2017 (Quality Control)

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 6 samples)

a. Inspection Scope

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

- Planned HPCI maintenance the week of April 18, 2017
- Planned maintenance on 115 kV Line 4 and transformer 71T-3 on April 26, 2017
- Emergent tornado watch and planned maintenance on 'B' RHR and RHRSW the week of May 2, 2017

- Planned power reduction and suppression testing and maintenance on 115 kV Line 3 and transformer 71T-2 the week of May 9, 2017
- Planned maintenance on 'A' RHR the week of May 22, 2017
- Planned maintenance on 'B' EDG the week of June 5, 2017

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 4 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions based on the risk significance of the associated components and systems:

- IR 3992646 regarding spent fuel pool functionality with leakage from the spent fuel pool tell-tale drains on April 1, 2017
- IR 4005902 concerning operability of the 'B' RHR pump after a temporary heat source was removed from its breaker while required during maintenance on May 3, 2017
- IR 4017581 regarding the operability of 'C' RHR with a PMT not performed as written on May 24, 2017
- IR 4020479 concerning the operability of a primary containment isolation valve, 07SOV-104C, in the traversing in-core probe system that was unable to be tested on June 10, 2017

The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to Exelon's evaluations to determine whether the components or systems were operable. The inspectors confirmed, where appropriate, compliance with bounding limitations associated with the evaluations. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by Exelon.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 5 samples)

a. Inspection Scope

The inspectors reviewed the PMTs for the maintenance activities listed below to verify that procedures and test activities adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with the information in the applicable licensing basis and/or design basis

documents, and that the test results were properly reviewed and accepted and problems were appropriately documented. The inspectors also walked down the affected job site, observed the pre-job brief and post-job critique where possible, confirmed work site cleanliness was maintained, and witnessed the test or reviewed test data to verify quality control hold points were performed and checked, and that results adequately demonstrated restoration of affected safety functions.

- WO 82475540 to replace a capacitor for the HPCI Woodward governor on April 20, 2017
- WO 80142227 to perform preventive maintenance on 'C' RHR pump discharge check valve, 10RHR-42C on May 24, 2017
- WO 82616577 to perform major preventive maintenance on the 'A' RHR containment spray outboard isolation valve actuator, 10RHR-26A on May 24, 2017
- WO 82631909 to perform an eddy current inspection of 'B' EDG jacket water cooler on June 10, 2017
- WO 82634086 to perform electrical preventive maintenance on the 'B' EDG on June 10, 2017

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 3 samples)

a. Inspection Scope

The inspectors observed the performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and Exelon procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied.

Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- ST-9BA, EDG 'A' and 'C' full load test and ESW pump operability test on May 15, 2017
- SP-01.02, Reactor water sampling and analysis on May 17, 2017 (RCS)
- ISP-175A1, Reactor and containment cooling instrument functional test/calibration on June 16, 2017

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 2 samples)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine FitzPatrick emergency drill on April 5, 2017, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the emergency operations facility to determine whether the event classifications, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the station drill critique to compare inspector observations with those identified by FitzPatrick staff in order to evaluate Exelon's critique and to verify whether FitzPatrick staff was properly identifying weaknesses and entering them into the CAP.

b. Findings

No findings were identified.

.2 Training Observations

a. Inspection Scope

The inspectors observed a simulator training evolution for FitzPatrick licensed operators on May 2, 2017, which required emergency plan implementation by the operations crew. Exelon planned for this evolution to be evaluated and included in performance indicator (PI) data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that Exelon evaluators noted the same issues and entered them into the CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational and Public Radiation Safety

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

a. Inspection Scope

The inspectors reviewed Exelon's performance in assessing and controlling radiological hazards in the workplace. The inspectors used the requirements contained in 10 CFR Part 20, TSs, Regulatory Guide 8.38, and the procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed the PIs for the occupational exposure cornerstone, radiation protection program audits, and reports of operational occurrences in occupational radiation safety since the last inspection.

Contamination and Radioactive Material Control (1 sample)

The inspectors observed the monitoring of potentially contaminated material leaving the radiological controlled area, and inspected the methods and radiation monitoring instrumentation used for control, survey, and release of that material. The inspectors selected several sealed sources from inventory records and assessed whether the sources were accounted for and were tested for loose surface contamination. The inspectors evaluated whether any recent transactions involving nationally tracked sources were reported in accordance with requirements.

Problem Identification and Resolution (1 sample)

The inspectors evaluated whether problems associated with radiation monitoring and exposure control (including operating experience) were identified at an appropriate threshold and properly addressed in the CAP.

b. Findings

No findings were identified.

2RS2 Occupational ALARA Planning and Controls (71124.02 – 4 samples)a. Inspection Scope

The inspectors assessed Exelon's performance with respect to maintaining occupational individual and collective radiation exposures as low as reasonably achievable (ALARA). The inspectors used the requirements contained in 10 CFR Part 20, Regulatory Guides 8.8 and 8.10, TSs, and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors conducted a review of FitzPatrick's collective dose history and trends, ongoing and planned radiological work activities, previous post-outage ALARA reviews, radiological source term history and trends, and ALARA dose estimating and tracking procedures.

Radiological Work Planning (1 sample)

The inspectors selected the following radiological work activities based on exposure significance for review:

- 20170536 Bi-Metal Weld Overlay
- 20170701 Reactor Disassembly/Reassembly
- 20170702 Refueling Activities

- 20170518 Drywell Scaffolding
- 20170514 control rod drive mechanism exchange

For each of these activities, the inspectors reviewed ALARA work activity evaluations, exposure estimates, exposure reduction requirements, results achieved (dose rate reductions, actual dose), person-hour estimates and results achieved, and post-job reviews that were conducted to identify lessons learned.

Verification of Dose Estimates and Exposure Tracking Systems (1 sample)

The inspectors reviewed the current annual collective dose estimate, basis methodology, and measures to track, trend, and reduce occupational doses for ongoing work activities. The inspectors evaluated the adjustment of exposure estimates or re-planning of work. The inspectors reviewed post-job ALARA evaluations of excessive exposure.

Implementation of ALARA and Radiological Work Controls (1 sample)

The inspectors ensured the radiological controls planned for work were integrated into the work documents. The inspectors observed in-plant work activities to ensure ALARA plans were effectively integrated into the actual work activities. The inspectors ensured that work-in-progress reviews were performed in a timely manner and adjustments were made to the ALARA estimates with management support. The inspectors reviewed the results achieved against the intended ALARA estimates to confirm adequate implementation of radiological work controls.

Problem Identification and Resolution (1 sample)

The inspectors evaluated whether problems associated with ALARA planning and controls were identified at an appropriate threshold and properly addressed in the CAP.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (71124.07 – 3 samples)

a. Inspection Scope

The inspectors reviewed the radiological environmental monitoring program (REMP) to validate the effectiveness of the radioactive gaseous and liquid effluent release program and implementation of the groundwater protection initiative (GPI). The inspectors used the requirements in 10 CFR Part 20; 40 CFR Part 190; 10 CFR Part 50, Appendix I; the site TSs and offsite dose calculation manual (ODCM); Nuclear Energy Institute (NEI) Document 07-07; and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed FitzPatrick 2015 and 2016 annual radiological environmental and effluent monitoring reports, REMP program audits, ODCM changes, land use census, UFSAR, and inter-laboratory comparison program results.

Site Inspection (1 sample)

The inspectors walked down various thermoluminescent dosimeter and air and water sampling locations and reviewed associated calibration and maintenance records. The inspectors observed the sampling of various environmental media as specified in the ODCM and reviewed any anomalous environmental sampling events including assessment of any positive radioactivity results. The inspectors reviewed any changes to the ODCM. The inspectors verified the operability and calibration of the meteorological tower instruments and meteorological data readouts. The inspectors reviewed environmental sample laboratory analysis results, laboratory instrument measurement detection sensitivities, results of the laboratory quality control program audit, and the inter- and intra-laboratory comparison program results. The inspectors reviewed the groundwater monitoring program as it applies to selected potential leaking SSCs, and 10 CFR 50.75(g) records of leaks, spills, and remediation since the previous inspection.

GPI Implementation (1 sample)

The inspectors reviewed groundwater monitoring results, changes to the GPI program since the last inspection, anomalous results or missed groundwater samples, leakage or spill events including entries made into the decommissioning files (10 CFR 50.75(g)), evaluations of surface water discharges, and Exelon's evaluation of any positive groundwater sample results including appropriate stakeholder notifications and effluent reporting requirements.

Problem Identification and Resolution (1 sample)

The inspectors evaluated whether problems associated with the REMP were identified at an appropriate threshold and properly addressed in Exelon's CAP.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES4OA1 Performance Indicator Verification (711151).1 Radiological Effluent TS/ODCM Radiological Effluent Occurrences (1 sample)a. Inspection Scope

The inspectors reviewed FitzPatrick submittals for the radiological effluent TS/ODCM radiological effluent occurrences PI for the period of January 1, 2016, through March 31, 2017. The inspectors used PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine if the PI data was reported properly. The inspectors reviewed the public dose assessments for the PI for public radiation safety to determine if related data was accurately calculated and reported.

The inspectors reviewed the CAP database to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous and liquid effluent summary data and the results of associated offsite dose calculations to determine if indicator results were accurately reported.

b. Findings

No findings were identified.

.2 Reactor Coolant System Specific Activity and Reactor Coolant System Leak Rate
(2 samples)

a. Inspection Scope

The inspectors reviewed FitzPatrick submittals for the reactor coolant system specific activity and reactor coolant system leak rate PIs for the period of April 1, 2016, through March 31, 2017. To determine the accuracy of the PI data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02. The inspectors also reviewed reactor coolant system sample analysis and control room logs of daily measurements of reactor coolant system leakage, and compared that information to the data reported by the PI. Additionally, the inspectors observed surveillance activities that determined the reactor coolant system identified leakage rate, and chemistry personnel taking and analyzing a reactor coolant system sample.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (711152 – 1 sample)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify Exelon entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for followup, the inspectors performed a daily screening of items entered into the CAP and periodically attended CR screening meetings. The inspectors also confirmed, on a sampling basis, that, as applicable, for identified defects and non-conformances, Exelon performed an evaluation in accordance with 10 CFR Part 21.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues to identify trends that might indicate the existence of more significant safety issues. As part of this review, the inspectors included repetitive or closely related issues documented by Exelon in trend reports, the plan of the day status summaries, and CAP backlogs. The inspectors also reviewed Exelon's CAP database for the first and second quarters of 2017 to assess CRs and IRs written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRC's daily IR review (Section 4OA2.1).

b. Findings and Observations

No findings were identified.

The inspectors evaluated a sample of issues and events that occurred over the course of the first and second quarters of 2017 to determine whether issues were appropriately considered as emerging or adverse trends. The inspectors verified that these issues were addressed within the scope of the CAP or through department review.

The inspectors identified two trends concerning equipment reliability that were not documented in Exelon's CAP. The first trend concerned the performance of dampers in ventilation systems. During a six month period, more than 20 CRs and IRs have documented performance issues regarding dampers in various safety-related and non-safety-related ventilation systems. These issues included the failure of dampers to correctly reposition when a system was shut down, to the failure of dampers to open when a cooling fan was operating. The second trend concerned the performance of heat exchangers including area air coolers and water system coolers. Over the review period, FitzPatrick personnel initiated more than 16 IRs that documented functionality concerns regarding area coolers and system heat exchangers located in safety-related and non-safety-related areas and systems. The majority of these IRs reported leaks in area unit cooler cooling coils.

There were no adverse safety consequences as a result of the aforementioned trends. When leaks were identified in safety-related area coolers and/or heat exchangers, operability evaluations were performed by FitzPatrick personnel. Similar actions were initiated when ventilation system dampers did not properly operate.

Exelon initiated IRs 04030288 and 04030291 to document inspector observations regarding damper and heat exchanger performance. The inspectors independently evaluated the deficiencies noted above for significance in accordance with the guidance in IMC 0612, Appendix B, "Issue Screening," and Appendix E, "Examples of Minor Issues." The inspectors determined these conditions were deficiencies of minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – 1 sample)a. Inspection Scope

(Closed) Licensee Event Report (LER) 05000333/2016-005-00: Degraded Damper Actuator Prevented Control Room Ventilation Exhaust Fan Start

On September 19, 2016, the control room ventilation exhaust fan 70FN-4A did not start when it was being placed into service. The fan outlet isolation damper actuator 70MOD-108A(OP) failed to give the fully-open permissive signal to start the fan. The fan was able to start when personnel manually applied pressure on the actuator linkage. Prior to this event, during a PMT on August 16, 2016, 70FN-4A did not start. Troubleshooting adjusted the linkage and the fan started on demand at that time. However, the intermittent fan start issue was caused by the degraded damper actuator 70MOD-108A(OP). The degraded actuator was replaced on October 4, 2016. The inspectors reviewed the LER, the CRs and associated documentation, and corrective actions. Through this review, the inspectors identified a performance deficiency that was characterized as more than minor and is documented below. This LER is closed.

b. Findings

Introduction. A self-revealing Green NCV of TS 3.7.3, “Control Room Emergency Ventilation Air Supply (CREVAS) System,” and TS 3.7.4, “Control Room Air Conditioning (AC) System,” was identified for the failure to declare one subsystem of the control room AC and CREVAS systems inoperable. Specifically, on August 16, 2016, FitzPatrick failed to declare the ‘A’ CREVAS and ‘A’ control room AC subsystems inoperable due to a degraded damper actuator. As a result, the ‘A’ CREVAS and ‘A’ control room AC subsystems were inoperable from August 16, 2016, until a compensatory measure was implemented on September 19, 2016, which exceeded the TS allowed outage time.

Description. The FitzPatrick control room AC system and CREVAS system were inoperable beginning on August 16, 2016, due to a degraded fan outlet isolation damper actuator. The actuator had reached its end of life and was performing too slowly to initiate the exhaust fan start permissive switch.

The control room AC system provides temperature control for the control room during both normal and accident conditions. The CREVAS system, a mode of the control room AC system, provides a protected control room environment from which occupants can control the plant following an uncontrolled release of radioactivity, hazardous chemicals, or smoke. The systems include two 100 percent capacity redundant trains which consist of air handling-cooling units, recirculation exhaust fans, special filter trains, and emergency control room supply fans. In accordance with its design basis, the CREVAS system is manually placed in service 30 minutes following a design basis loss of coolant accident by placing the control switch in the main control room to the “isolate” position. This allows one of the two special filter train booster fans to automatically start and provide clean outside air for breathing and maintain positive pressure in the control room. The intake air supply is mixed with air from one of the recirculation/exhaust fans before it is recirculated back to the control room. One control room exhaust fan runs at all times while the other fan is on standby. An automatic start of the standby fan occurs when the running exhaust fan stops and the standby fan’s associated exhaust damper reaches the full open position. This prevents damage to the standby fan. The start

permissive switch is internal to the exhaust damper's actuator. Separate position indication switches with no permissive function provide indication in the control room.

On August 16, 2016, FitzPatrick performed corrective maintenance and troubleshooting on exhaust damper 70MOD-108A to correct previous dual indication issues and a failure of the exhaust damper to fully close. Following FitzPatrick staff review, it was decided that the full preventive maintenance task, under WO 52655955, would be adequate to repair the degraded conditions and meet the intent of the corrective maintenance WOs. In the completion notes for this WO, maintenance technicians indicated that only inspection and lubrication of damper and actuator components were needed, and that no damper linkage removal or adjustments were required. Additionally, they determined that the position indication switches were installed and operating correctly, with no adjustments required. Instrumentation and control technicians verified that no linkage or actuator travel adjustments were required. At this time, the position indication lights associated with 70MOD-108A were verified in the control room as satisfactory (i.e. no dual indication).

However, the time delay start logic relay 70-62-1CRVA04 was found to be out-of-tolerance. The as-found trip set point was 62.6 seconds when it was required to be between 49 and 55 seconds. This relay was recalibrated to trip at 52.7 seconds, allowing approximately 10 fewer seconds for the damper to reach the full-open position before the time delay start logic relay would time out and prevent the exhaust fan from starting.

Following completion of the maintenance, FitzPatrick performed a PMT utilizing surveillance test procedure OP-55B, "Control Room Ventilation and Cooling." The PMT was unsuccessful because exhaust fan 70FN-4A failed to start as the time delay start logic relay timed out before the damper reached the full open position. Operators also received dual indication in the main control room for exhaust damper 70MOD-108A. FitzPatrick generated CR-JAF-2016-3116 as a result of the failed PMT and performed troubleshooting. During troubleshooting, electricians adjusted the damper linkage 1/16-1/8-inch to correct the dual indication issue and verified that the exhaust fan motor started with no issues. FitzPatrick maintenance personnel speculated that the more the damper linkage was actuated, the less time it took for the damper to move, allowing the internal actuator permissive switch to make up the 10 fewer seconds allowed following the recalibration. No additional work or investigation was conducted into the speed of the actuator, the time delay start logic relay, or the permissive switch at this time. Additionally, there was no evaluation as to whether or not the actuator was degrading, or if the actuator could reach the full open permissive switch with less frequent actuation of the system and damper linkage. The PMT was subsequently performed satisfactorily.

On September 19, 2016, FitzPatrick staff performed ST-18, "Main Control Room Emergency Fan and Damper Operability Test," as part of the normal quarterly surveillance test for CREVAS. When operators attempted to start 70FN-4A, the fan failed to start. Operators also identified 70MOD-108A displayed dual indication. Operators inspected the exhaust damper, and assisted the linkage with light pressure by hand. This allowed the permissive switch in the actuator to be completed and allowed 70FN-4A to successfully start. CR-JAF-2016-3593 was generated to address the degraded condition and assess operability. Operators declared the system operable but degraded with a compensatory measure to assist 70MOD-108A to allow 70FN-4A to

start. FitzPatrick staff also determined that to increase system reliability, it would be prudent to leave 70FN-4A in service until a repair could be made to the exhaust damper.

On October 4, 2016, FitzPatrick staff performed troubleshooting under WO 456472 for 70MOD-108A, and replaced actuator 70MOD-108A(OP). During subsequent bench testing to confirm proper operation and adequate response of the permissive switch that allows 70FN-4A to start, the removed actuator was noted to have a slow or degraded response. Following the actuator replacement, a PMT for the CREVAS system and 70MOD-108A was successfully completed and operators declared the system operable with no compensatory measure required. The inspectors reviewed the actuator's past performance, maintenance history, and completed replacement WO and determined the licensee's conclusion that the slow actuator was the cause of the exhaust fan's failure to start reliably was reasonable. The inspectors concluded the 'A' CREVAS and 'A' control room AC subsystems had been inoperable since August 16, 2016, which exceeded TSs 3.7.3 and 3.7.4 allowed outage time.

Analysis. The inspectors determined that FitzPatrick's failure to declare the 'A' CREVAS and 'A' control room AC subsystems inoperable on August 16, 2016, and enter TS 3.7.3 and TS 3.7.4, respectively, was a performance deficiency that was reasonably within FitzPatrick's ability to foresee and correct and should have been prevented. The performance deficiency is more than minor because it is associated with the SSC and barrier performance attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, this resulted in the 'A' control room AC and 'A' CREVAS subsystems being inoperable from August 16, 2016, to September 19, 2016, and the exceedance of the allowable TS out of service times.

In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 3 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency did not represent a degradation of the radiological barrier function provided for the control room and the finding did not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere (i.e., the 'B' train of both subsystems remained operable). This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because FitzPatrick failed to thoroughly evaluate the problem such that resolution addressed the cause. Specifically, FitzPatrick failed to fully evaluate the degraded condition during troubleshooting following the failed PMT on August 16, 2016. Thorough testing and evaluation of the degraded actuator would have led to the identification of the need for replacement to restore the damper and its actuator to fully operable status. [P.2]

Enforcement. TS 3.7.3 requires two CREVAS subsystems to be operable. Condition A states that with one CREVAS subsystem inoperable, restore the CREVAS subsystem to operable status within 7 days. Condition C states that if the required action of condition A cannot be met, the plant must be in mode 3 within 12 hours and subsequently be in mode 4 within 36 hours. TS 3.7.4 requires two control room AC subsystems be operable. Condition A states that with one control room AC subsystem inoperable, restore the control room AC subsystem to operable status within 30 days. Condition C states that if this condition cannot be met, the plant must be in mode 3 within 12 hours

and subsequently be in mode 4 within 36 hours. Contrary to the above, between August 16, 2016, and September 19, 2016, the licensee failed to declare one of two redundant subsystems of the control room AC system and CREVAS system inoperable and enter TS 3.7.3, Condition A, and TS 3.7.4, Condition A. Consequently, on August 23, 2016, the licensee failed to enter TS 3.7.3, Condition C, and take applicable actions. Additionally, on September 15, 2016, the licensee failed to enter TS 3.7.4, Condition C, and take applicable actions. As corrective action, following the failure on September 19, 2016, FitzPatrick put a compensatory measure in place to assist the damper linkage by hand as needed until the actuator was replaced on October 4, 2016. Because this violation was of very low safety significance (Green) and the licensee entered the performance deficiency into the CAP as CR-JAF-2016-3593, the NRC is treating this as an NCV in accordance with Section 2.3.2.a of the Enforcement Policy. **(NCV 05000333/2017002-01, 'A' Control Room Ventilation Subsystems Inoperable Longer than Allowed by Technical Specifications)**

4OA6 Meetings, Including Exit

On July 20, 2017, the inspectors presented the inspection results to Mr. Joseph Pacher, Site Vice President, and other members of the Exelon staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION**KEY POINTS OF CONTACT**Licensee Personnel

J. Pacher, Site Vice President
 T. Peter, Plant Manager
 C. Adner, Director, Site Operations
 H. Borick, Senior Operations Instructor
 W. Drews, Manager, Site Regulatory Assurance
 J. Jones, Manager, Emergency Preparedness
 A. King, Radiation Protection Supervisor
 T. Redfearn, Manager, Security
 B. Sanders, Chemistry Supervisor
 A. Smith, Director, Training
 A. Sterio, Director, Site Engineering

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATEDOpened/Closed

05000333/2017002-01	NCV	'A' Control Room Ventilation Subsystems Inoperable Longer than Allowed by Technical Specifications (Section 4OA3)
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Closed

0505000333/2016-005-00	LER	Degraded Damper Actuator Prevented Control Room Ventilation Exhaust Fan Start (Section 4OA3)
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LIST OF DOCUMENTS REVIEWED**Section 1R01: Adverse Weather Protection**Procedures

AOP-13, Severe Weather, Revisions 25 and 26
 AOP-72, 115 kV Grid Loss, Instability, or Degradation, Revision 11
 AP-12.04, Seasonal Weather Preparations, completed May 2017
 AP-12.13, 345/115 kV Transmission Line Operations and Interface, Revision 8
 ODSO-4, Shift Turnover and Log Keeping, Attachment 1, Revision 12
 ODSO-10, 345 kV and 115 kV Abnormal Circuit Breaker Operation, Revision 9
 OP-11A, Main Generator, Transformers and Isolated Bus Phase Cooling, Revision 52
 OP-44, 115 kV System, Revision 22
 OP-55A, Control and Relay Room Refrigeration Water Chiller, Revision 27
 OP-55B, Control Room Ventilation and Cooling, Revision 36
 OP-60, Diesel Generator Room Ventilation, Revision 9

Condition Report
CR-JAF-2016-1210

Issue Reports

04003035	04006686	04006740	04021031
04023029			

Work Order

82690125

Miscellaneous

DBD-070, Design Basis Document for Control Room and Relay Room Ventilation and Cooling Systems, Revision 4

NUMARC 87-00, Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout at Light Water Reactors, Revision 1

Section 1R04: Equipment Alignment

Procedures

MST-011.11, Standby Liquid Control Explosive Valves (IST), January 21, 2017

ODSO-4, Shift Turnover and Log Keeping, Attachment 1, Revision 12

OP-13, Residual Heat Removal System, Revision 13

OP-14, Core Spray System, Revision 37

OP-17, Standby Liquid Control System, Revision 52

OP-19, Reactor Core Isolation Cooling System, Revision 50

OP-21, Emergency Service Water, Revision 38

OP-22, Diesel Generator Emergency Power, Revision 61

OP-43A, 125 VDC Power System, Revision 29

OP-60, Diesel Generator Room Ventilation, Revision 9

ST-6HA, Standby Liquid Control A Side Quarterly Operability Test (IST), January 10, 2017 and January 21, 2017

ST-6HB, Standby Liquid Control B Side Quarterly Operability Test (IST), January 21, 2017, April 20, 2017, and May 31, 2017

Condition Reports

2015-1571	2015-3320	2015-3855	2015-5173
2015-5519	2015-5531	2016-2759	2016-3422
2017-0396	2017-1604	2017-1679	

Work Orders

00451967	00467918	80334598	80434117
82614808	82698424	82701786	82727429

Drawings

FM-21A, Flow Diagram Standby Liquid Control System 11, Revision 37

FM-23A, Flow Diagram Core Spray System 14, Revision 49

Section 1R05: Fire Protection

Document

JAF-RPT-04-00478, JAF Fire Hazards Analysis, Revision 3

Procedures

PPF-PWR01, East Cable Tunnel / Elevation 258-Foot Fire Area/Zone II/CT-2, Revision 3
PPF-PWR02, West Cable Tunnel / Elevation 258-Foot Fire Area/Zone IC/CT-1, Revision 5
PPF-PWR13, Main Control Room & Control Room HVAC Equipment Rooms/Elevation 300-Foot
Fire Area/Zone VII/CR-1, Revision 6
PPF-PWR31, Emergency Diesel Generator Spaces-South / Elevation 272-Foot Fire Area/Zone
V/EG-1, EG-2, EG-5, Revision 4
PPF-PWR32, Emergency Diesel Generator Spaces-North / Elevation 272-Foot Fire Area/Zone
VI/EG-3, EG-4, EG-6, Revision 5

Section 1R07: Heat Sink Performance

Procedures

EN-DC-316, Heat Exchanger Performance and Condition Monitoring, Revision 7
SEP-HX-JAF-001, JAF Eddy Current Testing of Heat Exchangers, Revision 5

Issue Report

4019143

Work Order

82631909

Section 1R11: Licensed Operator Requalification Program

Procedures

AOP-2, Main Turbine Trip without Scram, Revision 12
AOP-47, Loss of Turbine Building Closed Loop Cooling, Revision 8
EN-OP-109, Drywell Leakage, Revision 2
OP-2A, Feedwater System, Revision 79
OP-13B, RHR – Containment Control, Revision 12
OP-65, Startup and Shutdown Procedure, Revision 121
ST-9Y, Manual Transfer Test of 10300 and 10400 Bus from Normal to Reserve, Revision 3

Condition Reports

CR-JAF-2017-2156
CR-JAF-2017-2195

Issue Reports

3993276 3996072 3996075 3999061

Miscellaneous

ODMI for CR-JAF-2017-1991

Section 1R12: Maintenance Effectiveness

Procedure

EN-DC-306, Acceptance of Commercial Grade Items/Services in Safety Related Applications,
Revision 5

Miscellaneous

PE Evaluation 00164065, Stem, Valve, Strainer 14, Gemini, Catalog ID 00J0811271

Section 1R13: Maintenance Risk Assessments and Emergent Work ControlProcedures

EN-NF-102, Corporate Fuel Reliability, Revision 5
 NF-AA-430, Failed Fuel Action Plan, Revision 14
 NF-AB-431, Power Suppression Testing, Revision 8

Issue Report

04008275

Section 1R15: Operability Determinations and Functionality AssessmentsProcedures

AOP-53, Loss of Spent Fuel Storage Pool, Reactor Head Cavity Well, or Dryer Separator
 Storage Pit Water Level, Revision 10
 AP-05.07, Post-Maintenance Testing (ISI), Revision 44
 EN-WM-107, Post Maintenance Testing, Revision 5
 ST-1C, Primary Containment Isolation Valve Exercise Test, February 14, 2017
 ST-2AL, RHR Loop 'A' Quarterly Operability Test (IST), May 24, 2017

Condition Reports

2005-1682
 2005-2087
 2017-2196

Issue Reports

4002940	4005256	4006720	4024416
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Work Order

4636586

Miscellaneous

DBD-010, Design Basis Document for the RHR System, Revision 13

Section 1R19: Post-Maintenance TestingProcedures

AP-05.07, Post-Maintenance Testing (ISI), Revision 44
 EN-MA-141, Limitorque Valve Operator Model SBM/SB/SBD-000 through 5 MOV and HBC
 Periodic Inspection, Revision 9
 EN-WM-107, Post Maintenance Testing, Revision 5
 OP-22, Diesel Generator Emergency Power, Revision 61
 ST-2AL, RHR Loop 'A' Quarterly Operability Test (IST), May 24, 2017
 ST-4N, HPCI Quick-Start, Inservice, and Transient Monitoring Test (IST), April 20, 2017
 ST-8QB, Testing of ESW Loop 'B' (IST), June 10, 2017

Issue Reports

4019098	4019133	4019852	4019858
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Work Orders

82424150	82564817	82633827	82683860
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Section 1R22: Surveillance TestingWork Orders

52698422	52733249	82604609	82604610
82750765			

Section 1EP6: Drill EvaluationProcedure

JEP-17-0019, April 5, 2017 Drill Report – Drill Scenario Identifier 2017-01, May 3, 2017

Section 2RS1: Radiological Hazard Assessment and Exposure ControlsProcedures

EN-RP-100, Radiation Worker Expectations, Revision 11
 EN-RP-101, Access Control for Radiologically Controlled Areas, Revision 12
 EN-RP-105, Radiological Work Permits, Revision 16
 EN-RP-106-01, Radiological Survey Guidelines, Revision 3
 EN-RP-122, Alpha Monitoring, Revision 9

Condition Reports

CR-JAF-2016-01930	CR-JAF-2016-01992	CR-JAF-2017-01399
CR-JAF-2017-00637	CR-JAF-2017-00922	

Surveys

Radwaste

JAF-1612-0140	JAF-1702-0199	JAF-1703-0053
JAF-1703-0055	JAF-1703-0058	JAF-1703-0061
JAF-1703-0065		

Reactor Building

JAF-1610-0124	JAF-1612-0222	JAF-1703-0013
JAF-1703-0122	JAF-1701-0194	JAF-1703-0070
JAF-1701-0975	JAF-1701-0722	JAF-1703-0069
JAF-1703-0047	JAF-1703-0068	JAF-1703-0045
JAF-1701-0190	JAF-1703-0006	

2RS2: Occupational ALARA Planning and ControlsProcedures

EN-RP-110, ALARA Program, Revision 14
 EN-RP-110-01, ALARA Initiative Deferrals, Revision 1
 EN-RP-110-06, Outage Dose Estimating and Tracking, Revision 1
 EN-RP-204, Special Monitoring Requirements, Revision 11

Condition Reports

CR-JAF-2016-05190
 CR-JAF-2017-00403

2RS7: Radiological Environmental Monitoring ProgramProcedures

AM-03.08, Solid Sample Analysis Using Gamma Spectroscopy, Revision 2
 AM-04.04, Tritium Analysis of Water Samples, Revision 12
 AM-04.06, Soil Sampling for Determination of Contamination and Dose Rates, Revision 3
 DVP-01.03, Quality Assurance/Quality Control Procedure, Revision 8
 DVP-04.16, Contractor Chemistry Analysis Procedures AREVA NP Inc., Revision 9
 DVP-04.18, CRA Groundwater Sampling Field Method, Revision 0
 EI-04.15, Liquid Scintillation System Beckman LS 6500, Revision 6
 EN-CY-111, Radiological Groundwater Monitoring Program, Revision 7
 EN-CY-111-01, Tritium Recapture Sampling, Revision 0
 EN-EV-100, Environmental Expectations, Revision 5
 RT-01.09, Sample Shipment for Offsite Analysis, Revision 2
 SP-01.05, Wastewater Sampling and Analysis, Revision 15
 SP-04.01, Radiological Environmental Monitoring Program, Revision 3
 SP-04.02, Circulating Water and Surface Water Sampling and Analysis, Revision 5
 SP-04.09, Environmental Radiological Sample and Land Use Survey Data Collection,
 Revision 3
 SP-05.02, Chemistry Surveillance and Scheduling System, Revision 2

Issue Reports

02447555	02449662	02449760	02466299
02484059	02634222	02645530	02647640
02679324	02736655	02707029	

Miscellaneous

Annual 2016 Quality Assurance Report, Teledyne Brown Engineering, April 17, 2017
 EA Project No. 62683.01, Quality Assurance Audit of the Nine Mile Point and James A.
 FitzPatrick Nuclear Power Plants, April 24, 2015
 EA Project No. 62683.04, Quality Assurance Audit of the Nine Mile Point and James A.
 FitzPatrick Nuclear Power Plants, January 31, 2017
 NUPIC Audit 24191, Teledyne Brown Eng. Environmental Services, Knoxville, TN,
 June 6– 10, 2016

Section 40A1: Performance Indicator VerificationProcedures

NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 7
 SP-01.02, Reactor Water Sampling and Analysis, Revision 27
 ST-40D, Daily Surveillance and Channel Check, Revision 111

Section 40A2: Problem Identification and ResolutionCondition Reports

CR-JAF-2016-5285	CR-JAF-2016-5286	CR-JAF-2016-5287
CR-JAF-2017-02	CR-JAF-2017-12	CR-JAF-2017-25
CR-JAF-2017-50	CR-JAF-2017-63	CR-JAF-2017-168
CR-JAF-2017-255	CR-JAF-2017-282	CR-JAF-2017-289
CR-JAF-2017-350	CR-JAF-2017-353	CR-JAF-2017-356
CR-JAF-2017-366	CR-JAF-2017-522	CR-JAF-2017-822

CR-JAF-2017-973
CR-JAF-2017-1186
CR-JAF-2017-1398
CR-JAF-2017-1502
CR-JAF-2017-1597
CR-JAF-2017-1733
CR-JAF-2017-2192

CR-JAF-2017-1164
CR-JAF-2017-1261
CR-JAF-2017-1463
CR-JAF-2017-1535
CR-JAF-2017-1623
CR-JAF-2017-1750

CR-JAF-2017-1179
CR-JAF-2017-1305
CR-JAF-2017-1470
CR-JAF-2017-1593
CR-JAF-2017-1716
CR-JAF-2017-1962

Issue Reports

04008057
04015693
04016362
04030288
04030291

Section 40A3: Follow-Up of Events and Notices of Enforcement Discretion

Condition Reports

CR-JAF-2015-1166
CR-JAF-2016-1210
CR-JAF-2016-1474
CR-JAF-2016-3083
CR-JAF-2016-3116
CR-JAF-2016-3593
CR-JAF-2016-3684
CR-JAF-2016-4088

Procedures

EN-LI-102, Corrective Action Program, Revision 27
OP-55B, Control Room Ventilation and Cooling, Revision 36

Work Orders

00453696
00456472
52427862
52655955

LIST OF ACRONYMS

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
AC	air conditioning
ALARA	as low as reasonably achievable
CAP	corrective action program
CR	condition report
CREVAS	control room emergency ventilation air supply
EDG	emergency diesel generator
ESW	emergency service water
GPI	groundwater protection initiative
HPCI	high pressure coolant injection
IMC	Inspection Manual Chapter
IR	issue report
kV	kilovolt
LER	licensee event report
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
ODCM	offsite dose calculation manual
PI	performance indicator
PMT	post-maintenance test
REMP	radiological environmental monitoring program
RHR	residual heat removal
RHRSW	residual heat removal service water
SSC	structure, system, and component
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
WO	work order