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

August 6, 2018

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 05000333/2018002

Dear Mr. Hanson:

On June 30, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the James A. FitzPatrick Nuclear Power Plant (FitzPatrick). On July 18, 2018, the NRC inspectors discussed the results of this inspection with Mr. Timothy Peter, Plant Manager, and other members of your staff. The results of this inspection are documented in the enclosed report.

No NRC-identified or self-revealing findings were identified during this inspection. NRC inspectors documented one licensee-identified violation which was determined to be of very low safety significance in this report. 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 this NCV, 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 I; the Director, Office of Enforcement; 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 Title 10 of the *Code of Federal Regulations* (10 CFR), Part 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Anthony Dimitriadis, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket Number: 50-333
License Number: DPR-59

Enclosure:
Inspection Report 05000333/2018002

cc w/encl: Distribution via ListServ

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT – INTEGRATED INSPECTION REPORT 05000333/2018002 DATED AUGUST 6, 2018

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number:	50-333
License Number:	DPR-59
Report Number:	05000333/2018002
Enterprise Identifier:	I-2018-002-0058
Licensee:	Exelon Generation Company, LLC (Exelon)
Facility:	James A. FitzPatrick Nuclear Power Plant
Location:	Scriba, NY
Inspection Dates:	April 1, 2018 to June 30, 2018
Inspectors:	K. Kolaczyk, Senior Resident Inspector S. Ghrayeb, Resident Inspector G. Stock, Resident Inspector T. Dunn, Operations Engineer B. Fuller, Senior Operations Engineer J. Furia, Senior Health Physicist M. Hardgrove, Projects Engineer C. Hobbs, Reactor Inspector J. Schoppy, Senior Reactor Inspector
Approved By:	Anthony Dimitriadis, Chief Reactor Projects Branch 5 Division of Reactor Projects

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring Exelon's performance at FitzPatrick by conducting the baseline inspections described in this report in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to https://www.nrc.gov/reactors/operating/oversight.html for more information. A licensee-identified non-cited violation (NCV) is documented in the Inspection Results section of the report.

PLANT STATUS

FitzPatrick began the inspection period at rated thermal power. On May 14, 2018, the unit was down powered to 45 percent power to remove the 'A' recirculation pump from service for a motor-generator set motor replacement. The unit was returned to rated thermal power on May 24, 2018. On June 1, 2018, the unit was down-powered to 65 percent power for planned control rod pattern adjustment, main steam isolation valve testing, and turbine valve testing. The unit was returned to rated thermal power on June 3, 2018. On June 22, 2018, the unit was down-powered to 70 percent power for a planned control rod pattern adjustment and condenser backwashing. The unit was returned to rated thermal power on June 23, 2018, and remained at or near rated thermal power for the remainder of the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515, Appendix D, "Plant Status," and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess Exelon's performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Summer Readiness (1 Sample)

The inspectors evaluated summer readiness of offsite and alternating current (AC) power systems on June 29, 2018.

71111.04 - Equipment Alignment

Partial Walkdowns (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems:

(1) 'A' and 'B' standby liquid control systems on April 17, 2018
(2) Offsite AC distribution system on April 19, 2018
(3) High pressure coolant injection system on May 16, 2018

71111.05A/Q - Fire Protection Annual/Quarterly

Quarterly Inspection (4 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

(1) Technical support center computer rooms, fire zone AD-3 on April 10, 2018
(2) Independent spent fuel installation pad, fire area yard on April 12, 2018
(3) Condensate storage tank vault, fire zone CST-V on April 23, 2018
(4) Motor generator set room/elevation 300', fire area MG-1 on April 23, 2018

Annual Inspection (1 Sample)

The inspectors evaluated a fire drill at 272' turbine building south on June 5, 2018.

71111.06 - Flood Protection Measures

Internal Flooding (1 Sample)

The inspectors evaluated leaking fire protection piping in east pipe tunnel on May 24, 2018.

71111.07 - Heat Sink Performance

Heat Sink (1 Sample)

The inspectors evaluated the 'C' reactor building closed loop cooling (RBCLC) heat exchanger retube on June 22, 2018.

Heat Sink (Triennial) (3 Samples)

The inspectors evaluated heat exchanger/heat sink performance on the following structures, systems, and components:

(1) 'C' emergency diesel generator (EDG) jacket water heat exchanger (93WE-1C), Section 02.02b
(2) East cable tunnel/emergency switchgear room cooler (67E-14), Section 02.02b
(3) One ultimate heat sink sample (associated with service water system operation and intake structure condition), Sections 02.02d.4 and 02.02d.7, respectively

71111.11 - Licensed Operator Requalification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed flexible mitigating strategies training on April 13, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated 'A' reactor water recirculation pump start and power ascension following generator replacement on May 19, 2018.

Operator Requalification Exam Results (Annual) (1 Sample)

The inspectors reviewed and evaluated requalification examination results, operating test only, on June 5, 2018.

Operator Requalification Program and Operator Performance (Biennial) (1 Sample)

The inspectors reviewed and evaluated operator, evaluator, and simulator performance during requalification examinations completed on March 22, 2018.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness (1 Sample)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

(1) Structural monitoring program diesel building and cable tunnel roof on April 11, 2018

Quality Control (1 Sample)

The inspectors evaluated maintenance and quality control activities associated with the following equipment performance issues:

(1) Unit cooler water box gasket
(2) RBCLC to drywell cooling assembly filter regulator
(3) Lubricant for GQ 600V motor control center cabinets

71111.13 - Maintenance Risk Assessments and Emergent Work Control (5 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

(1) 'B' residual heat removal (RHR) maintenance on April 4, 2018
(2) Line 3 outage on April 11, 2018
(3) 'A' containment air dilution system planned maintenance on April 16, 2018
(4) 'A' recirculation generator heavy lift on May 15, 2018
(5) 'A' core spray maintenance and operability test June 13, 2018

71111.15 - Operability Determinations and Functionality Assessments (4 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

(1) Station battery cell flaking on May 17, 2018
(2) Fully inserted control rods 06-27, 06-31, 18-31, 34-35, and 38-31 on May 30, 2018
(3) Spent fuel pool leakage on May 31, 2018
(4) Emergency service water (ESW) following through wall leak discovery and evaluation on June 19, 2018

71111.18 - Plant Modifications (1 Sample)

The inspectors evaluated the following temporary modification:

(1) Engineering Change Package 618981, Isolation of Lines in the Drywell Floor Drain System, focusing on the 02-2MOV-53A valve body drain

71111.19 - Post Maintenance Testing (6 Samples)

The inspectors evaluated post maintenance testing for the following maintenance/repair activities:

(1) ST-2AM, 'B' RHR quarterly operability testing on April 5, 2018
(2) 'A' reactor recirculation pump generator replacement on May 19, 2018
(3) 76P-1, West diesel fire pump testing on June 8, 2018
(4) 'A' core spray system operability testing on June 13, 2018
(5) 'C' EDG circulating oil pump maintenance on June 20, 2018
(6) 'B' standby gas treatment system motor replacement on June 27, 2018

71111.20 – Refueling and Other Outage Activities

The inspectors evaluated new fuel receipt inspection activities on June 26, 2018.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (3 Samples)

(1) ST-9R, EDG System Quick-Start Operability Test and Offsite Circuitry Verification, on April 24, 2018
(2) ST-9BA, EDG 'A' and 'C' Full Load Test and ESW Pump Operability Test, on May 17, 2018
(3) ST-1L, Main Turbine Control Valve Instrument Channel and Valve Operability Check, on June 2, 2018

Inservice (2 Samples)

(1) ST-6HA, Standby Liquid Control 'A' Side Quarterly Operability Test, on May 23, 2018
(2) ST-24J, Reactor Core Isolation Cooling Flow Rate and Inservice Test, on May 30, 2018

Reactor Coolant Leak Detection (1 Sample)

(1) SP-01.02, Reactor Water Sampling and Analysis, on May 31, 2018

RADIATION SAFETY

71124.08 - Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

Radioactive Material Storage (1 Sample)

The inspectors observed radioactive waste container storage areas and verified the postings and controls and that Exelon had established a process for monitoring the impact of long-term storage of the waste.

Radioactive Waste System Walkdown (1 Sample)

The inspectors walked down the following:

(1) Accessible portions of liquid and solid radioactive waste processing systems to verify current system alignment and material condition
(2) Abandoned in-place radioactive waste processing equipment to review the controls in place to ensure protection of personnel
(3) Changes made to the radioactive waste processing systems since the last inspection
(4) Processes for mixing and transferring radioactive waste resin and/or sludge discharges into shipping/disposal containers
(5) Current methods and procedures for dewatering waste

Waste Characterization and Classification (1 Sample)

The inspectors identified radioactive waste streams and reviewed radiochemical sample analysis results to support radioactive waste characterization. The inspectors reviewed the use of scaling factors and calculations to account for difficult-to-measure radionuclides.

Shipment Preparation (1 Sample)

The inspectors reviewed the records of shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and Exelon verification of shipment readiness.

Shipping Records (1 Sample)

The inspectors reviewed selected non-excepted package shipment records.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification (2 Samples)

The inspectors verified Exelon's performance indicator submittals listed below for the period from April 1, 2017 to March 31, 2018:

(1) BI01, Reactor Coolant System Specific Activity
(2) BI02, Reactor Coolant System Leak Rate

71152 - Problem Identification and Resolution

Semiannual Trend Review (1 Sample)

The inspectors reviewed Exelon's implementation of its corrective action program (CAP) for trends that might be indicative of a more significant safety issue for a sample of issues and events that occurred between October 2017 and March 2018.

Annual Follow-up of Selected Issues (1 Samples)

The inspectors reviewed Exelon's implementation of its CAP related to the following issues:

(1) Issue Report (IR) 4097375, FitzPatrick Cycle 23 Fuel Defects

INSPECTION RESULTS

Licensee Identified Non-Cited Violation	71124.08
This violation of very low safety significance was identified by Exelon and has been entered into Exelon's CAP and is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.	
Violation: 10 CFR 71.5 requires that licensees who transport licensed material comply with the applicable requirements of the Department of Transportation (49 CFR). 49 CFR 172.202(a)(1) and (a)(2) require that the shipping description on the shipping paper include the proper shipping name and identification number for the material. 49 CFR 172.302(a) requires that shipments in bulk packages be marked with the identification number. Contrary to the above, on July 12, 2016, the shipping description on the shipping paper for shipment JAF-2016-1613 from FitzPatrick to Tennessee did not include the proper shipping name and identification number for the material. Exelon identified the error during a subsequent review of the shipping paperwork. Significance/Severity Level: No examples of transportation issues are presented in IMC 0612, Appendix E (Examples of Minor Issues). IMC 0609, Appendix D, Section VII.C.e.1 lists examples of Green findings that include documentation deficiencies including failure to properly document compliance with 49 CFR requirements such as shipping papers. Corrective Action Reference: Exelon placed this issue into its CAP as CR-JAF-2016-02857. Corrective actions included providing a corrected shipping paper to the facility in Tennessee that had received the package.	

Minor Performance Deficiency and Observations	71152 Semiannual Trend Review
During the trend review, inspectors identified multiple IRs associated with deficiencies in the RBCLC system where functionality assessments were not performed when required by OP- A-108-115, "Operability Determinations." The failure to complete required functionality assessments for RBCLC system issues is a performance deficiency; however, it was determined to be minor because the RBCLC system was always functional and the performance deficiency did not adversely affect the Mitigating System cornerstone objective. Exelon acknowledged the issue and reopened relevant IRs for shift review and performed the	

necessary functionality determinations. Additional corrective actions included discretionary crew clock resets for all operations crews (IR 04153271).

The inspectors also noted that Exelon documented a number of trends over the inspection timeframe. Exelon documented a trend from June 2017 to November 2017 of eight IRs concerning inadequate foreign material exclusion (FME) controls (IR 04071678). Poor FME practices have the potential to impact fuel leaks. The inspectors noted that Exelon has taken a number of actions to resolve the issue and implemented appropriate corrective actions pertaining to their FME control program onsite. Exelon also identified a trend in failures to enter requisite information into operations narrative logs (IR 04071531). Exelon independently identified several examples where a log entry was warranted but not entered in accordance with OP-AA-111-101. Corrective actions included the review of procedural requirements by all operations crews, crew clock resets and shift briefings.

Minor Performance Deficiency	71152 Annual Follow-up of Selected Issues

FitzPatrick Cycle 23 Fuel Defects

On November 5, 2017, Exelon identified a third fuel defect in the cycle 23 core that has resulted in full insertion of five control rods to date to mitigate the consequences of operating with defective fuel in the current fuel cycle. Exelon initiated a root cause investigation under IR 4097375 that will not be complete until the defective fuel is cleaned and examined in detail following completion of the next refueling outage. The inspectors identified a minor performance deficiency for the calculation of shutdown margin (SDM). Exelon procedure NF-AB-110-3050 for calculation of cold SDM requires in Step 4.2 that SDM be calculated when there is uncertainty between actual core operating strategies and the core design of record. In addition, Exelon procedure NF-AB-110-3040 for calculation of control rod pattern development and projections to end of cycle, contains a design verification check in Attachment 2, Section B, to verify that SDM is acceptable for the remainder of the fuel cycle. Contrary to the above two procedures, from the first change in core configuration that was completed on May 18, 2017, for the first discovered fuel defect, until a re-calculation of SDM was performed on May 1, 2018, SDM was not verified to be in compliance with the SDM technical specification (TS). Corrective action to re-calculate SDM was not timely considering the potential safety significance of violating the SDM TS.

Re-calculation of SDM on May 1, 2018, confirmed that insertion of control rod 6-31 on May 18, 2017, ensured sufficient margin at that time, and for the remainder of fuel cycle 23, between the calculated value of SDM and the TS specified value. Exelon documented this issue in IR 4133208 and completed an extent of condition review to confirm there were no other deviations from design requirements for the cycle 23 core. In addition, an action has been assigned to Nuclear Fuels to review applicable processes to ensure the appropriate level of review is completed when revising rod patterns for the operating fuel cycle.

The performance deficiency was evaluated for significance in accordance with IMC 0612, Appendix B, “Issue Screening,” dated January 1, 2018, and IMC 0612, Appendix E, “Examples of Minor Issues,” dated August 11, 2009. The inspectors determined that this issue was minor because the SDM TS was not violated, and a re-configuration of the plant was not required to prevent violating the SDM TS (such as reducing plant power or changing the core rod pattern). This performance deficiency is similar to Example 2.a. in IMC 0612, Appendix E.

EXIT MEETINGS AND DEBRIEFS

Inspectors verified no proprietary information was retained or documented in this report.

- On June 6, 2018, the inspector presented the inspection results by phone to Mr. Christopher Adner, Operations Director, and other members of the Exelon staff.

- On June 14, 2018, the inspector presented the inspection results to Mr. Alex Sterio, Director, Site Engineering, and other members of the Exelon staff.

- On June 29, 2018, the inspector presented the radiation safety inspection results to Mr. Joseph Pacher, Site Vice President, and other members of the Exelon staff.

- On July 18, 2018, the inspectors presented the quarterly resident inspection results to Mr. Timothy Peter, Plant Manager, and other members of the Exelon staff.

DOCUMENTS REVIEWED

71111.01

Procedures
AOP-72, 115kV Grid Loss, Instability, or Degradation, Revision 11
AP-12.04, Seasonal Weather Preparedness, Revision 027
WC-AA-107, Seasonal Readiness, Revision 20

71111.04

Procedures
OP-17, Standby Liquid Control System, Revision 52
OP-44, 115kV System, Revision 24

Drawings
FM-21A, Flow diagram Standby Liquid Control System, Revision 37
FM-25A, Flow Diagram, High Pressure Coolant Injection System, Revision 75

71111.05

Procedures
JAF-RPT-04-00478, JAF Fire Hazards Analysis, Revision 3
OP-AA-201-003, Fire Drill Performance, Revision 16
PFP-OUT39, ISFSI Pad Location Elevation 272' Fire Area Zone Yard, Revision 2
PFP-PWR23, Fire Response Plan Motor Generator Set Room, Revision 5

Issue Report
04079478

Work Order
4723332

71111.07 - Heat Sink Performance

Procedures
AOP-10, Loss of Service Water Cooling, Revision 14
AOP-13, Severe Weather, Revision 32
AOP-56, Intake Water Level Trouble, Revision 15
ER-AA-340, GL 89-13 Program Implementing Procedure, Revision 9
ER-AA-5400-1001, Raw Water Piping Integrity Management Guide, Revision 11
JAF-RPT-MULTI-01267, Generic Letter 89-13 Program Plan, Revision 4
OP-13C, RHR Service Water, Revision 14
OP-21, Emergency Service Water, Revision 38
OP-22, Diesel Generator Emergency Power, Revision 62
OP-42, Service Water System, Revision 52
OP-AA-108-111-1001, Severe Weather and Natural Disaster Guidelines, Revision 17
SEP-SW-JAF-001, NRC Generic Letter 89-13 Service Water Program, Revision 0
ST-8Q, Testing of the ESW System (IST), Revision 050
ST-9BA, EDG A and C Full Load Test and ESW Pump Operability Test, Revision 016

ST-9HA, EDG A and C Lube Oil and Cooling Water Systems Class 3 Piping Leakage Test (ISI), Revision 001
ST-9QA, EDG A and C Full Load Test (8 Hour Run), Revision 012
SY-AA-101-146, Severe Weather Preparation and Response, Revision 2

Issue Reports

04014925	04062019	04072267	04084863
04107913	04123471	04138318	04145660
04145770	04146131	04146725*	04147154*
2012-0366	2013-2413	2015-2494	2015-4416
2016-1069	2016-1070	2016-1260	2017-1164

* IR written as a result of this inspection

Drawings
2137-23, 67E-14 As-Built Drawing, Revision 2
FM-20B, Residual Heat Removal System 10 Flow Diagram, Revision 72
FM-46A, Service Water System 46 Flow Diagram, Revision 92
FM-46B, Emergency Service Water System 46 and 15 Flow Diagram, Revision 57
FM-93C, Engine Cooling and Lubrication Oil Emergency Diesel Generators System 93 Flow Diagram, Revision 9

Work Orders

04654692	04682358	82626362	82691362

Miscellaneous
04088187-02, NRC Tri-Annual Ultimate Heatsink Inspection Self-Assessment, dated June 5, 2018
EPRI NP-7552M, Heat Exchanger Performance Monitoring Guidelines, December 1991
EPRI TR-107397, Service Water Heat Exchanger Testing Guidelines, March 1998
W981-0001, Installation, Operation, and Maintenance Manual for Shell and Tube Heat Exchangers, Revision 0
DBD-093, Design Basis Document for the Emergency Diesel Generator, Revision 13

71111.11

Procedure
OP-27, Recirculation System, Revision 81

Work Order
80455505

71111.12

Procedure
ER-AA-450, Structures Monitoring, Revision 7

Miscellaneous
Commercial Grade Dedications Sheet
Document Number 00649438
EN-MP-112, Rev 5, Shelf Life Program

Item Equivalency Evaluation 00155498
Procurement Engineering Evaluation 00135975
Procurement Engineering Evaluation 00138962
Procurement Engineering Evaluation 00163368
Purchase Order 10497183
Purchase Order 1049919

71111.13

Procedure
OP-AA-108-117, Protected Equipment Program, Revision 5

71111.15

Procedure
OP-AA-108-115, Operability Determinations, Revision 20

Condition Report
CR-JAF-2017-02196, Action Plan for Spent Fuel Pool Liner Leakage, dated January 2, 2018

Issue Reports

03992646	04008472	04013475	04060217
04137701	04138318	04142498	

Work Order
1366682

Drawings
11825, Spent Fuel Pool Liner Details, Sheets 1-4, Revision 6
AP-17.03, Spent Fuel Pool Map, Revision 11

Miscellaneous
Engineering Change 624309
JAF Control Room Operator Logs dated May 13, 2017 through May 4, 2018
UT Erosion/Corrosion Examination Report No. B18UT012 and B18UT013

71111.18

Procedures
EN-DC-136, Attachment 9.4, Temporary Modification Control Form, TMOD No. 618981, Revision 14
EN-DC-173, Attachment 9.4, Engineering Leak Repair Evaluation Checklist, TMOD No. 618981, Revision 2
OP-27, Recirculation System, Revision 81

Work Orders
04622631-01
04622631-04
04622631-13

Drawing
FM-26A, Flow Diagram Reactor Water Recirculation System 02-2, Revision 62

Miscellaneous
MP-059.85, Temporary Leak Repair, Revision 7
TRP-3401, Hot Tap Rings, Revision 3

71111.19

Procedures
OP-27, Recirculation System, Revision 81
ST-3NA, Core Spray Loop 'A' Class 2 Piping Leakage Test, Revision 0
ST-3PA, Core Spray Loop 'A' Quarterly Operability Test, Revision 23
ST-76J23, West Diesel Fire Pump 76P-1 Performance Test, June 8, 2018

Work Orders

4635346-05	4721820-01	80455505	82569126
82570201	82707442-01	82746386-01	

71111.22

Procedures
SP-01.02, Reactor Water Sampling and Analysis, Revision 29
SP-05.02, Chemistry Surveillance and Scheduling System, Revision 4
ST-1L, Main Turbine Control Valve Instrument Channel and Valve Operability Check, Revision 37
ST-6HA, Standby Liquid Control A Side Quarterly Operability Test, Revision 10
ST-9R, EDG System Quick-Start Operability Test and Offsite Circuitry Verification, Revision 8
ST-24J, RCIC Flow Rate and Inservice Test, Revision 48

Issue Report
04753369

Work Order
04753562

71151

Procedures
EN-LI-114, Performance Indicator Process, Revision 7
NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 7
SP-01.02, Reactor Water Sampling and Analysis, Revision 29
SP-05.02, Chemistry Surveillance and Scheduling System, Revision 4

71152

Procedures
MA-AA-716-008, Foreign Material Exclusion Program, Revision 13
MA-AA-716-008-1008, Reactor Services Refuel Floor FME Plan, Revision 13
NF-AB-110-1160, Generation of 3D Simulator Output Files for ShuffleWorks, Revision 9
NF-AB-110-1170, Generation of Fuel Moves Using ShuffleWorks, Revision 11

NF-AB-110-3040, Control Rod Pattern Development and Projections to EOC, Revision 19
NF-AB-110-3050, Cold Shutdown Margin, Revision 13
NF-AB-430, Failed Fuel Action Plan, Revision 14
NF-AB-431, Power Suppression Testing, Revision 8
OP-AA-108-111, Attachment 1, Adverse Condition Monitoring and Contingency Plan - JAF Failed Fuel Monitoring, Revision 3
OSP-66.001, Management of Refueling Activities, Revision 9
RAP-7.4.04, Reactivity Anomaly Surveillance Test, Revision 18

Issue Reports

4008275	4008472	4019299	4019299
4039343	4040606	4040620	4049121
4071227	4074581	4081475	4081555
4081564	4083992	4097375	4133208
4133209	4138890	4138892	

Work Order
4755156-01

Calculations
NF-AB-110-3040, Attachment 2, Design Verification Guide-Control Rod Pattern Development and Projections to EOC, dated November 27, 2017
NF-AB-110-3050, Attachment 5, Design Verification Guide-Cold Shutdown Margin, dated May 1, 2018

Miscellaneous
JAF Chemistry Logs, Offgas Release Rate and Sum of Six Isotopes, May 2, 2017 through May 2, 2018
JAF Renewed Facility Operating License, DPR-59, Amendment 317
JAF Technical Requirements Manual, Revision 70
JAF UFSAR
LER 2012-004-01, Control Rods Inoperable While Entering Plant Outage, dated January 24, 2013
LER 2015-001, COLR Thermal Limits Exceeded with Elevated Fuel Support Piece, dated June 29, 2015
Root Cause Report, FitzPatrick Cycle 23 Fuel Defects, dated January 26, 2018
Technical Evaluation 622819, FitzPatrick Control Blade Replacement Projections: Replacement Strategy for FitzPatrick Cycle 24 (Reload 23), dated February 2, 2018