



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

February 11, 2019

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 05000333/2018004

Dear Mr. Hanson:

On December 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the James A. FitzPatrick Nuclear Power Plant (FitzPatrick). On January 22, 2019, 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.

The NRC inspectors did not identify any findings or violations of more than minor significance.

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 05000333/2018004

cc w/encl: Distribution via ListServ

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT – INTEGRATED  
INSPECTION REPORT 05000333/2018004 DATED FEBRUARY 11, 2019

DISTRIBUTION: (via email)

DLew, RA (R1ORAMAIL RESOURCE)  
RLorson, DRA (R1ORAMAIL RESOURCE)  
DCollins, DRP (R1DRPMAIL RESOURCE)  
DPelton, DRP (R1DRPMAIL RESOURCE)  
JYerokun, DRS (R1DRSMAIL RESOURCE)  
BWellington, DRS (R1DRSMAIL RESOURCE)  
ADimitriadis, DRP  
LCline, DRP  
AZiedonis, DRP  
PBoguszewski, DRP  
CHighley, DRP, SRI  
GStock, DRP, RI  
ATrudell, DRP, AA  
MMcCoppin, RI OEDO  
RidsNrrPMFitzPatrick Resource  
RidsNrrDorLpl1 Resource  
ROPReports Resource

DOCUMENT NAME: G:\DRP\BRANCH5\Inspection Reports\Final\2018\Fitz IR 18-004 final.docx  
ADAMS ACCESSION NUMBER: **ML19043A899**

<input checked="" type="checkbox"/> SUNSI Review		<input checked="" type="checkbox"/> Non-Sensitive <input type="checkbox"/> Sensitive		<input checked="" type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available	
OFFICE	RI/DRP	RI/DRP	RI/DRP	RI/DRP	
NAME	CHighley/CJH	JSchussler/JES	AZiedonis/AVZ	ADimitriadis/AD	
DATE	2/11/19	2/11/19	2/8/19	2/11/19	

OFFICIAL RECORD COPY

**U.S. NUCLEAR REGULATORY COMMISSION**  
**Inspection Report**

Docket Number: 50-333

License Number: DPR-59

Report Number: 05000333/2018004

Enterprise Identifier: I-2018-004-0067

Licensee: Exelon Generation Company, LLC (Exelon)

Facility: James A. FitzPatrick Nuclear Power Plant

Location: Scriba, NY

Inspection Dates: October 1, 2018 to December 31, 2018

Inspectors: C. Highley, Acting Senior Resident Inspector  
J. Schussler, Acting Senior Resident Inspector  
G. Stock, Resident Inspector  
J. Ambrosini, Senior Emergency Preparedness Inspector  
P. Boguszewski, Project Engineer  
S. Pindale, Senior Reactor Inspector

Approved By: Anthony Dimitriadis, Chief  
Reactor Projects Branch 5  
Division of Reactor Projects

Enclosure

## 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. NRC-identified and self-revealing findings, violations, and additional items are summarized in the table below.

No findings or more-than-minor violations were identified.

### Additional Tracking Items

Type	Issue number	Title	Inspection Results Section	Status
LER	05000333/2017-004-00	Safety Relief Valves Out of Tolerance	71153	Discussed
LER	05000333/2017-004-01	Safety Relief Valve Lift Out of Tolerance	71153	Discussed

## PLANT STATUS

FitzPatrick began the inspection period shutdown for planned refueling outage 23. Upon completion of refueling outage 23, operators performed a reactor startup and the generator was placed on the grid on October 7, 2018. On October 9, after raising power to approximately 80 percent, the 'B' recirculation pump tripped during testing. This resulted in a decrease in power to 53 percent. Following repairs, power ascension commenced and 100 percent was achieved on October 12. On October 27, operators reduced power to approximately 60 percent for a post-outage control rod pattern adjustment. Operators then raised power to 100 percent on October 28. FitzPatrick 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

#### Seasonal Extreme Weather (1 Sample)

The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures on December 12, 2018.

#### External Flooding (1 Sample)

The inspectors evaluated readiness to cope with external flooding on October 19, 2018.

### 71111.04 - Equipment Alignment

#### Partial Walkdown (2 Samples)

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

- (1) Reactor core isolation cooling system on October 12, 2018
- (2) 'B' station battery on November 6, 2018

#### 71111.05A/Q - Fire Protection Annual/Quarterly

##### Quarterly Inspection (2 Samples)

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

- (1) 'A' and 'C' emergency diesel generator and switchgear rooms, fire area/zones V/EG-1, EG-2, and EG-5 on December 18, 2018
- (2) 'B' and 'D' emergency diesel generator and switchgear rooms, fire area/zones VI/ EG-3, EG-4, and EG-6 on December 18, 2018

#### 71111.11 - Licensed Operator Regualification Program and Licensed Operator Performance

##### Operator Regualification (1 Sample)

The inspectors observed and evaluated a simulator scenario including the removal of offsite line 1 from service; an unexpected closure of a turbine control valve; an unexpected opening of an automatic depressurization system safety relief valve (SRV); fuel failure and a failure of a steam line to isolate, requiring emergency depressurization; and event declaration on October 18, 2018.

##### Operator Performance (1 Sample)

The inspectors observed and evaluated operations personnel during startup activities following refueling outage 23 on October 6, 2018, as well as synchronizing the unit to the grid on October 7, 2018.

#### 71111.12 - Maintenance Effectiveness

##### Routine Maintenance Effectiveness (4 Samples)

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

- (1) Residual heat removal service water system October 29, 2018
- (2) Reactor core isolation cooling system on November 20, 2018
- (3) Standby liquid control system on December 10, 2018
- (4) Emergency service water system on December 14, 2018

#### 71111.13 - Maintenance Risk Assessments and Emergent Work Control (4 Samples)

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

- (1) Drain down, operations with the potential to drain the reactor vessel, outage risk window 4, on October 1, 2018
- (2) 'A' emergency service water inoperable and unavailable on October 31, 2018

- (3) Transition from Mode 4 to Modes 2 and 1 with inoperable residual heat removal pump, in accordance with Technical Specification 3.0.4.b, on November 28, 2018
- (4) 'B' residual heat removal system inoperable and unavailable on December 11, 2018

#### 71111.15 - Operability Determinations and Functionality Assessments (3 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) 'B' inboard main steam isolation valve, 29AOV-80B, main control board dual indication on October 18, 2018
- (2) Sodium pentaborate identified on reactor vessel instrumentation valve body on November 29, 2018
- (3) Water hammer induced damage to reactor coolant pressure boundary snubber on December 19, 2018

#### 71111.18 - Plant Modifications (3 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Engineering Change 17239 - Low pressure coolant injection inverter replacement on October 24, 2018
- (2) Engineering Change 622608 - Remove temporary emergency core cooling system strainer clamshells and install permanent replacements on November 1, 2018
- (3) Engineering Change 624477 - Tornado missile protection non-conformance contingency actions for relay room and control room air conditioning system on December 7, 2018

#### 71111.19 - Post Maintenance Testing (4 Samples)

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

- (1) 'A' residual heat removal service water loop quarterly operability test following pump fastener replacement on October 4, 2018
- (2) SRV electric lift logic system functional and simulated automatic actuation test following planned valve replacement on October 24, 2018
- (3) Reactor containment isolation cooling 150 pound operability test after containment closure on October 30, 2018
- (4) 'A' emergency service water pump following planned packing replacement on November 1, 2018

#### 71111.20 - Refueling and Other Outage Activities (1 Sample)

The inspectors evaluated planned refueling outage 23 activities from October 1, 2018 to October 12, 2018.

### 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

#### Routine (2 Samples)

- (1) ST-39H, Reactor pressure vessel system leakage test, on October 3, 2018
- (2) ST-6M, Standby liquid control recirculation injection test, on October 25, 2018

### 71114.04 - Emergency Action Level and Emergency Plan Changes (1 Sample)

The inspectors verified that the changes made to the emergency plan were done in accordance with 10 CFR 50.54(q)(3), and any change made to the emergency action levels, emergency plan, and its lower-tier implementing procedures, had not resulted in any reduction in effectiveness of the plan. This evaluation did not require NRC approval.

## **OTHER ACTIVITIES – BASELINE**

### 71152 - Problem Identification and Resolution

#### Semiannual Trend Review (1 Sample)

The inspectors reviewed Exelon's corrective action program for trends that might be indicative of a more significant safety issue.

#### Annual Follow-up of Selected Issues (2 Samples)

The inspectors reviewed Exelon's implementation of its corrective action program related to the following issues:

- (1) SRV As-Found Testing Failures (IRs 4077124 and 4082823)
- (2) Failure of Condensate Storage Tank Level Switches for Reactor Core Isolation Cooling Suction Realignment (IR 04164618)

### 71153 - Follow-up of Events and Notices of Enforcement Discretion

#### Events (1 Sample)

The inspectors evaluated response to the following event:

- (1) Degraded instrument air header pressure caused by a trip of service air compressor 39AC-2A led to reactor building ventilation isolation. Consequently with reactor building ventilation isolated, secondary containment differential pressure exceeded the technical specification requirement of greater than or equal to 0.25 inches of vacuum water gauge. The condition existed for 3 minutes on December 5, 2018, and is documented in event notification report EN 53778.



### Licensee Event Reports (1 Sample)

The inspectors evaluated the following licensee event reports (LERs) which can be accessed at <https://lersearch.inl.gov/LERSearchCriteria.aspx>:

- (1) LER 05000333/2017-004-00, Safety Relief Valves Out of Tolerance (ADAMS Accession No. ML18089A040). The circumstances surrounding this LER were discussed and are documented in report section Inspection Results. This LER remains Open.
- (2) LER 05000333/2017-004-01, Safety Relief Valve Lift Out of Tolerance (ADAMS Accession No. ML18022A031). The circumstances surrounding this LER were discussed and are documented in report section Inspection Results. This LER remains Open.

### **INSPECTION RESULTS**

Observations	71152 Annual Follow-up of Selected issues
<p><u>Safety Relief Valve As-Found Testing Failures</u></p> <p>The inspectors performed a review of Exelon's evaluation and corrective actions associated with FitzPatrick main steam SRV setpoint drift issues. Over the past several operating cycles, SRV testing has resulted in some SRVs exceeding the technical specification allowable as-found lift setpoint acceptance criterion of 1145 psig +/- 3 percent. The setpoint drift has been attributed to "corrosion bonding," which involves bridging oxide buildup between the pilot disc surface and pilot valve body disc seating surface. This phenomenon typically affects the initial SRV actuation.</p> <p>The inspectors evaluated Exelon's prioritization and timeliness of corrective actions to determine whether they were appropriately identifying, characterizing, and correcting problems associated with this issue, and whether the planned or completed corrective actions were commensurate with the safety significance of the issue. The inspectors determined Exelon staff implemented corrective actions intended to improve SRV performance which included installation of Stellite 21 discs in all 11 SRV pilot assemblies and installation of an SRV electric lift system (additional, redundant pressure actuation switches modification). Additionally, Exelon staff began to replace the 2-stage SRVs with 3-stage Target Rock SRVs, which were designed to address the corrosion bonding issue. Three SRVs were installed in 2010 of the 3-stage design. However, operating experience at another plant indicated an unrelated problem with the 3-stage SRV design (ADAMS Accession No. ML15134A017). Subsequently, the SRV vendor re-designed the 3-stage SRV to eliminate the problem. In the interim, Exelon staff removed two of their three 3-stage SRVs from service and replaced them with 2-stage SRVs.</p> <p>Relative to the 10 of 11 SRVs that did not meet test acceptance criterion for the SRVs removed during the Fall 2017 refueling outage, Exelon staff determined that the safety significance was minimal due to the availability of the electric lift system. Nine of the 10 SRV test failures were 2-stage valves, and one was the remaining 3-stage valve. The nine 2-stage SRVs that failed were out of specification high, and the 3-stage SRV was out of specification low. Exelon staff attributed the nine 2-stage SRV test failures to corrosion bonding. The</p>	

3-stage SRV test failure was attributed to calibrating the pilot within the lower half of the acceptance range, for which Exelon subsequently implemented a new work practice to conduct additional spring testing during SRV refurbishment to reduce the likelihood of setpoint drift.

During the most recent refueling outage at FitzPatrick (Fall 2018), Exelon staff removed all 11 2-stage SRVs and sent them to an offsite testing facility. Those tests have not yet been completed. Exelon staff further replaced all SRVs with newly modified 3-stage design.

The inspectors concluded Exelon staff implemented corrective actions consistent with industry and vendor initiatives to minimize the corrosion bonding issues. In addition, Exelon staff replaced all SRVs with the 3-stage modified design in September 2018 after an unrelated problem was addressed by the vendor. These corrective actions implemented industry and vendor recommendations and were commensurate with the safety significance of the issue. Additional discussion on this issue is documented in Inspection Results, Section 71153, in this report.

Observations	71152 Annual Follow-up of Selected issues
<p><u>Failure of Condensate Storage Tank Level Switches for Reactor Core Isolation Cooling Suction Realignment</u></p> <p>The inspectors performed an in-depth review of Exelon's analysis and corrective actions associated with multiple failures of the condensate storage tank level switches for reactor core isolation cooling suction realignment. The inspectors reviewed condition reports, engineering evaluations, and causal evaluations; and held discussions with plant personnel. The inspectors assessed Exelon's problem identification threshold, cause analysis, and the prioritization and timeliness of the corrective actions.</p> <p>The reactor core isolation cooling system is normally aligned to take suction from the condensate storage tank. When the condensate storage tank experiences a low water level condition, level switches actuate resulting in a suction realignment to the Torus. There are four of these switches, two per division, 13LS-76A, 13LS-77A, 13LS-76B, and 13LS-77B. For suction realignment, one switch from both divisions must actuate. Technical Specification 3.3.5.3 requires all four switches be operable. If a switch is found to be inoperable, the channel must be put in trip, reactor core isolation cooling must be realigned to the Torus within 24 hours, or reactor core isolation cooling must be declared inoperable. On February 27, 2018, 13LS-76B failed its routine surveillance but was able to be recalibrated. This issue was documented in IR 04109193. As a result of this failure, the surveillance frequency was increased from 90 to 45 days. The inspectors determined this was an appropriate response to the failure.</p> <p>Both 13LS-76A and 13LS-76B performed successfully during the following two surveillances. On August 15, 2018, during the third performance of the surveillance, both 13LS-76A and 13LS-76B failed, and only 13LS-76A was able to be reset. 13LS-76B was found to have a broken internal component, called the shunt, which made it unable to be calibrated. Exelon's apparent cause evaluation on the issue, and discussions with the manufacturer, found that the shunt was undersized. The shunt for 13LS-76B was replaced with the appropriate component and was successfully post-maintenance tested. This issue was documented in IR 04164618. It was also recognized at this time that both 13LS-76A and 13LS-77B were potentially</p>	

susceptible to the same failure mode. Exelon's operability determination found there was confidence that the function was maintained based on surveillance history and that, after the repair, one switch from both divisions was not susceptible to the broken shunt failure mode, specifically 13LS-76B and 13LS-77A. Also, work orders were generated to open and inspect 13LS-76A and 13LS-77B in future work weeks to verify the undersized shunt was not present. The inspectors inquired about the justification for continued operations with the potentially degraded switches. Exelon's response included pursuit of switch replacement; ensuring that the installed switches either passed previous surveillances or post-maintenance tests; and verification that the remaining susceptible switches were not in the same division, therefore, the safety function was maintained. The inspectors determined these actions were reasonable.

On November 8, 2018, both 13LS-76A and 13LS-76B failed the surveillance again. These failures were documented in IR 04193121 and 04193124. Given the history of these switches, Exelon swapped reactor core isolation cooling suction to the Torus and expedited the complete switch replacement of 13LS-76B. Once 13LS-76B was replaced, suction was returned to the condensate storage tank, however, the 'A' division was left in the trip state due to the suspect condition of 13LS-76A. 13LS-76A has since been replaced, on January 2, 2019, and the 'A' division was brought out of trip to the normal lineup. Following the 13LS-76B replacement after the November 8, 2018, failure, the removed switch was sent to Exelon PowerLabs for analysis. The analysis was inconclusive because the identified condition could not be repeated. Long term corrective actions include a design change to utilize a more robust style level switch.

The inspectors concluded that the issues had been appropriately identified in the corrective action program and that corrective actions were timely, based on information available at the time of each failure. The above items were evaluated using NRC IMC 0612, Appendix B, "Issue Screening," and NRC IMC 0612, Appendix E, "Examples of Minor Issues," and determined to be of minor significance because the safety function was always maintained.

Observations	71152 Semi-Annual Trend Review
<p>The inspectors evaluated a sample of condition reports generated over the course of the second and third quarters of 2018 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 corrective action program or through department review.</p> <p>The evaluation did not reveal any new trends that could indicate a more significance safety issue. The inspectors determined that, in most cases, the issues were appropriately evaluated by Exelon staff for potential trends at a low threshold, and resolved within the scope of the corrective action program. The inspectors noted minor adverse trends identified by Exelon staff in the area of vendor quality parts, foreign material exclusion, source range monitors, and boron related issue reports.</p> <p>There were no safety consequences as a result of these low-level trend issues. Based on the overall results of the semi-annual trend review, the inspectors determined that Exelon had properly identified adverse trends at FitzPatrick before they became more significant safety problems. 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 that none of the</p>	

conditions were deficiencies of greater than minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy.

LER (Discussed/ Open)	LER 05000333/2017-004-00, Safety Relief Valves Out of Tolerance and Supplemental LER 05000333/2017-004-01, Safety Relief Valve Lift Out of Tolerance	71153 Follow-up of Events and Notices of Enforcement Discretion
<p><u>Description:</u> On November 21, 2017, Exelon staff received results that the as-found setpoint tests for the main steam SRV pilot stage assemblies had exceeded the lift setting tolerance prescribed in technical specifications. Specifically, 10 of the 11 pilot stage assemblies tested experienced drift beyond the +/- 3 percent tolerance permitted by Technical Specification 3.4.3. Exelon staff concluded that the cause of the setpoint drift was attributed to corrosion bonding between the pilot disc and seating surfaces for 9 of the 10 test failures (these were 2-stage SRVs which all failed high); and calibrating the pilot within the lower half of the acceptance range was the cause for the other test failure (which was a 3-stage SRV that failed low). This condition was reportable under 10 CFR 50.73(a)(2)(i)(B) and (a)(2)(v)(D) as any operation or condition which was prohibited by the plant's technical specifications, and any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident, respectively.</p> <p>The SRV corrosion bonding issue has been reported to the NRC by a number of plant operators. Currently, NRC staff in the Office of Nuclear Reactor Regulation are meeting with the Boiling Water Reactor Owners Group and other stakeholders to gain a better understanding of the industry initiatives to address this issue (reference ADAMS Accession No. ML18267A016). It is expected that further guidance on dispositioning these issues will be provided to regional inspectors in the near term.</p> <p>While the inspectors did not identify a performance deficiency associated with Exelon's corrective actions, this LER, including characterization of this issue, will remain open pending the completion of NRC interaction with the industry and subsequent guidance on the dispositioning of these issues.</p> <p>Corrective Action References: IRs 4077124 and 4082823</p> <p>LER 05000333/2017-004-00 and Supplemental LER 05000333/2017-004-01 are Open.</p>		

## EXIT MEETINGS AND DEBRIEFS

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

- On November 28, 2018, the inspector presented the Problem Identification and Resolution inspection results for Safety Relief Valves As-Found Testing Failures, to Mr. Keith Schoales, Senior Staff Engineer, and other members of the Exelon staff.
- On January 22, 2019, the inspectors presented the quarterly resident inspection results to Mr. Joseph Pacher, Site Vice President, and other members of the Exelon staff.

**DOCUMENTS REVIEWED****71111.01**Procedures

AOP-13, Severe Weather, Revision 33

AOP-13, Severe Weather, Revision 34

WC-AA-107, Seasonal Readiness, Revision 21

Work Order

04724778

Miscellaneous

UFSAR

**71111.04**Procedures

AOP-46, Loss of DC Power System B, Revision 16

FM-22A, Flow Diagram Reactor Core Isolation Cooling, Revision 57

OP-43A, 125 VDC Power System, Revision 30

**71111.05**ProceduresPFP-PWR31, Emergency Diesel Generator Spaces-South / Elevation 272-foot Fire Area/Zone  
V/EG-1, EG-2, EG-5, Revision 4PFP-PWR32, Emergency Diesel Generator Spaces-North / Elevation 272-foot Fire Area/Zone  
VI/EG-3, EG-4, EG-6, Revision 5**71111.11**Procedure

OP-65, Start-up and Shutdown Procedure, Revision 124A

**71111.12**ProceduresDesign Equivalent Change Packet 625754, Justification for Alternate Screws for RHRSW  
Pumps 10P-1A and 10P-1C, Revision 0

ER-AA-310-1003, Maintenance Rule Performance Criteria Selection, Revision 5

JAF-RPT-MULTI-02294, Maintenance Rule Basis Document for Service Water Systems,  
Revision 12Vendor Manual A180-0052, Installation and Maintenance Instructions for Vertical Turbine  
Pumps, Revision 2Issue Reports

03992524	03992574	03997323	04003347
04005476	04026429	04034868	04047111
04084185	04109193	04133925	04117191
04118802	04118803	04122120	04122622

04122627	04122774	04122776	04122777
04123048	04134050	04154237	04160342
04160344	04160345	04160346	04163480
04164618	04164660	04173069	04173442
04175529	04175532	04175533	04175762
04178640	04180688	04188092	04190096
04194525			

Drawing

2.28-5, Sectional Allis Chalmers (RHRSW Drawing), Revision 2

Engineering Change Package

625811, Residual Heat Removal Service Water Cap Screw Corrosion, Revision 0

Miscellaneous

Maintenance Rule (a)(1) Action Plan System 10 RHRSW 'B' Train, Revision 4

Maintenance Rule Basis Document, Reactor Core Isolation Cooling, dated November 12, 2018

Maintenance Rule Basis Document, Standby Liquid Control, dated December 10, 2018

Maintenance Rule Performance Criteria Selection Template Used for Maintenance Rule  
ID 11- 1 Revision, Dated March 5, 2018

Maintenance Rule Systems Basis Document, Emergency Service Water, dated  
December 12, 2018

**71111.13**Procedures

ER-AA-600-1042, On-Line Risk Management, Revision 11

OU-AA-103, Shutdown Safety Management Program, Revision 20

WC-AA-101, On-Line Work Control Process, Revision 28

Issue Reports

04179738

04198300

Engineering Change

17239, Low Pressure Coolant Injection Inverter Replacement, Revision 1

Miscellaneous

Risk Management Document No. JF-Mode-001, Transition from Mode 4 to Modes 2 and 1 with  
Inoperable RHR Pump, Revision 0

**71111.15**Procedures

ER-AA-335-016, VT-3 Visual Examination of Component Supports, Attachments and Interiors of  
Reactor Vessels, Revision 11

MA-AA-716-004, Conduct of Troubleshooting, Revision 015

Work Order

4724885

Issue Reports

03992605	04029823	04172631	04172786
04173609	04173773	04175339	04182254

Drawings

FM-24A, Flow Diagram Reactor Water Cleanup System 12, Revision 12  
 FP-1B, Reactor Water Cleanup Piping, Revision 38  
 MSK-101A1, Reactor Water Cleanup Piping Pump Suction, Revision 15

Engineering Change Package

625791, Reactor Water Cleanup Snubber Past Operability, Revision 1

Miscellaneous

JAF-SPEC-MISC-00334, James A. FitzPatrick Nuclear Power Plant Piping Specification,  
 Revision 14  
 Operability Evaluation 18-005  
 Troubleshooting Plan for AR 04175339, Attachment 1 of MA-AA-716-004, Revision 15  
 Troubleshooting Plan for Valve 02-3NBI-26 and 32, Attachments 2 and 3 of MA-AA-716-004,  
 Revision 15

**71111.18**Procedure

AOP-13, Severe Weather, Revision 34

Issue Reports

03992524  
 04144501  
 04144602

Condition Report

CR-2017-00812

Work Orders

466553  
 466554

Engineering Changes

17239, Low Pressure Coolant Injection Inverter Replacement, Revision 1  
 69507, Residual Heat Removal Strainer Temporary Modification, Revision 0  
 620371, Tornado Missile Assessment for FitzPatrick, Revision 0  
 622608, Tornado Missile Protection Non-Conformance Relay Room and Control Room AC  
 System, Revision 0  
 624475, Reinforced Concrete Wall Barrier Non-Conformance for Tornado Missile Protection,  
 Revision 1  
 624477, Tornado Missile Protection Non-Conformance Relay Room and Control Room AC  
 System, Revision 0

Drawings

6.60-85, Sure Flow Suction Strainer Module RHR1 Module Assembly and Design Information,  
 Revision A

6.60-103, Sure Flow Suction Strainer RHR and CS Modules Subassembly Sections and Details, Revision A

Miscellaneous

DBD-010, FitzPatrick Nuclear Power Plant Design Basis Document for the Residual Heat Removal System, Revision 13

**71111.19**

Procedures

ST-2XA, RHR Service Water Loop A Quarterly Operability Test, Revision 13

ST-8Q, Testing of the Emergency Service Water System (IST), Revision 51

ST-22A, Automatic Depressurization System Simulated Automatic Actuation Test, Revision 24

ST-22J, ST-22J, Safety Relief Valve Electric Lift Logic System Functional and Simulated Automatic Actuation Test, Revision 7

ST-24J, RCIC Flow Rate and Inservice Test (IST), Revision 50

Issue Reports

04175529

04190317

**71111.20**

Procedures

OP-65, Startup and Shutdown Procedure, Revision 123

OP-AA-108-108, Unit Restart Review, Revision 20

**71111.22**

Procedures

ST-39H, RPV System Leakage Test, Revision 35

ST-6M, Standby Liquid Control Recirculation, Injection Test (IST, ISI) Revision 10

ST-6M, Standby Liquid Control Recirculation, Injection Test (IST, ISI) Revision 11

Issue Reports

04179739

04179951

Work Order

4646277

**71114.04**

Procedures

EP-AA-122-100, Drill and Exercise Planning and Scheduling, Revision 008

EP-AA-122-100-F-08, Pre-Exercise and NRC Exercise Checklist, Revision F

EP-AA-122-100-F-09, Off-Year Exercise Checklist, Revision D

EP-AA-122-100-F-10, Focus Area or Station Only Drill Checklist, Revision E

EP-AA-122-100-F-12, Hostile Action Based Exercise Checklist, Revision D

EP-AA-122-100-F-13, Call in Drill (CID) Checklist, Revision F

EP-AA-122-100-F-14, Drive in Drill (DID) Checklist, Revision F



EP-AA-122-300-F-01, Drill and Exercise Evaluation Criteria, Revision J  
 EP-AA-122-300-F-02, Drill and Exercise Objective Evaluation Summary, Revision F  
 EP-AA-110-200, Dose Assessment, Revision 10  
 EP-AA-110-200-F-04, JAF/NMP Evaluation of Possible Lake Breeze Events, Revision B  
 EP-AA-110-200-F-21, JAF/NMP Meteorological Data Acquisition, Revision B  
 EP-AA-110-201, On-Shift Dose Assessment, Revision 5  
 EP-AA-110-201-F-17, Manual Summing of Dose Assessment Results, Revision A  
 EP-AA-110-201-F-13, NMP Unit 1 Rapid Release Path Board, Revision B  
 EP-AA-110-201-F-14, NMP Unit 2 Rapid Release Path Board, Revision B  
 Evaluation 18-02, EP-AA-111/EP-CE-111, Emergency Classification and Protective Action  
 Recommendations, Revision 21-04  
 Evaluation 18-09, Drill and Exercise Procedure Changes  
 Evaluation 18-19, URI Procedures and Supporting Forms  
 Evaluation 18-75, TQ-AA-113, ERO Training and Qualification, Revision 34

## **71152**

### Procedures

AP-19.01, Surveillance Testing Program, Revision 22  
 ER-AA-2003, System Performance Monitoring and Analysis, Revision 14  
 ISP-75.1, RCIC CST Low Water Level Switch Functional Test/Calibration, Revision 24  
 PI-AA-101-1001, Performance Monitoring and Analysis Manual, Revision 1  
 PI-AA-101, Conduct of Performance Improvement, Revision 1  
 PI-AA-120, Issue Identification and Screening Process, Revision 8  
 PI-AA-125, Corrective Action Program Procedure, Revision 6  
 WC-AA-120, Preventative Maintenance Modification Request, Revision 001

### Issue Reports

04164660	04164618	04174397	04176327
04182832	04109193	04165105	04165110
04193121	04193124	04202844	

### Drawing

791E464, Elementary Diagram RCIC System, Revision 9

### Miscellaneous

DBD-013, Reactor Core Isolation Cooling System, Revision 6  
 Jaguar Instruments Vendor Manual, Level Ac SL-100, SL-300, SL-400, & SL-500 Series  
 Switches  
 Robert Shaw Vendor Manual, External Float Chamber Level Switch SL-300, SL-700