UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

November 10, 2020

Mr. Jim Barstow
Vice President Nuclear Regulatory Affairs & Support Services
Tennessee Valley Authority
1101 Market Street, LP 4A-C
Chattanooga, TN 37402-2801

SUBJECT: BROWNS FERRY NUCLEAR PLANT – INTEGRATED INSPECTION REPORT 05000259/2020003, 05000260/2020003 AND 05000296/2020003

Dear Mr. Barstow:

On September 30, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Browns Ferry Nuclear Plant. On October 23, 2020, the NRC inspectors discussed the results of this inspection with Mr. Steven M. Bono, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

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

If you contest the violation or the significance or severity of the violation documented in this inspection report, 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 II; the Director, Office of Enforcement; and the NRC Resident Inspector at Browns Ferry Nuclear Plant.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; and the NRC Resident Inspector at Browns Ferry Nuclear Plant.

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 at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Thomas A. Stephen, Chief
Reactor Projects Branch #5
Division of Reactor Projects

Docket Nos. 05000259, 05000260 and 05000296
License Nos. DPR-33, DPR-52 and DPR-68

Enclosure:
As stated

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SUBJECT: BROWNS FERRY NUCLEAR PLANT – INTEGRATED INSPECTION REPORT 05000259/2020003, 05000260/2020003 AND 05000296/2020003 Dated November 10, 2020

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers:	05000259, 05000260 and 05000296
License Numbers:	DPR-33, DPR-52 and DPR-68
Report Numbers:	05000259/2020003, 05000260/2020003 and 05000296/2020003
Enterprise Identifier:	I-2020-003-0058
Licensee:	Tennessee Valley Authority
Facility:	Browns Ferry Nuclear Plant
Location:	Athens, Alabama
Inspection Dates:	July 01, 2020 to September 30, 2020
Inspectors:	S. Downey, Senior Reactor Inspector C. Fontana, Emergency Preparedness Inspector M. Kirk, Resident Inspector N. Lacy, Operations Engineer H. Lynn, Senior Health Physicist J. Seat, Senior Resident Inspector C. Stott, Resident Inspector J. Viera, Operations Engineer
Approved By:	Thomas A. Stephen, Chief Reactor Projects Branch #5 Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Browns Ferry Nuclear Plant, 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.

List of Findings and Violations

Failure to Properly Implement Procedural Requirements to Resolve a Mispositioned Control Rod.			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000259/2020003-01 Open/Closed	[H.9] - Training	71153
The inspectors identified a Green finding and associated Non-cited Violation (NCV) of Technical Specification 5.4.1, Procedures, when the licensee failed to comply with 1-AOI-85-7, Mispositioned Control Rod, by placing a mispositioned control rod in a position not prescribed by procedural requirements.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000296/2020-001-00	LER 2020-001-00 for Browns Ferry Nuclear Plant, Unit 3, Automatic Actuation of Emergency Diesel Generators Due to an Offsite Lightning Strike	71153	Closed

PLANT STATUS

Unit 1 began the inspection period at rated thermal power (RTP). On July 20, 2020, Unit 1 was down powered and subsequently taken offline on July 21, 2020, due to degraded condenser vacuum caused by eel grass accumulation at the intake pumping station. The Unit was restarted on July 29, 2020 and returned to RTP on August 3, 2020. Unit 1 began its feedwater reduction and coastdown on September 17, 2020 and finished the inspection period at 85 percent RTP.

Unit 2 began the inspection period at RTP. On July 20, 2020, Unit 2 was taken offline due to degraded condenser vacuum caused by eel grass accumulation at the intake pumping station. The Unit was restarted on July 27, 2020 and returned to RTP on August 2, 2020. On August 4, 2020, Unit 2 began a planned down power to approximately 30 percent RTP for waterbox cleaning and coolant leak repairs on the 2A variable frequency drive (VFD). Unit 2 returned to RTP on August 9, 2020, where it remained for the duration of the inspection period.

Unit 3 began the inspection period at RTP. On July 1, 2020, the Unit was down powered to 67 percent RTP due to a spurious trip of the 3C reactor feed pump (RFP). Following repairs, the Unit was returned to RTP on July 3, 2020. On July 20, 2020, Unit 3 power was reduced to 76 percent RTP due to degraded condenser vacuum caused by eel grass accumulation at the intake pumping station. The Unit returned to RTP on July 22, 2020, where it remained for the duration 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 reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards. Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), resident and regional inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time the resident inspectors performed periodic site visits each week, increasing the amount of time on site as local COVID-19 conditions permitted. As part of their onsite activities, resident inspectors conducted plant status activities as described in IMC 2515, Appendix D; observed risk significant activities; and completed on site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on site. The inspections documented below met the objectives and requirements for completion of the IP.

REACTOR SAFETY

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (4 Samples)

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

(1) Residual heat removal service water (RHRSW) and emergency equipment cooling water (EECW) systems after a large eel grass intrusion to the intake fore bay on July 21, 2020.
(2) High Pressure Coolant Injection (HPCI) system while Reactor Core Isolation Cooling (RCIC) system inoperable for maintenance outage on September 3, 2020.
(3) Unit 3, Standby Liquid Control (SLC) system on September 15, 2020.
(4) Unit 1, Fuel Pool Cooling System (FPC) after an FPC system drain valve was mispositioned (i.e., drain valve for Unit 3's FPC system opened instead of Unit 1's drain valve) on September 22, 2020.

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

(1) The inspectors evaluated system configurations during a complete walk down of the control room emergency ventilation system (CREV) on August 20, 2020.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

(1) Unit 2, Fire Area 18, Battery and Battery Board Room on August 5, 2020
(2) Unit 1, Fire Area 05, Electric Board Room 1A ('A' 4kV) and 250V Battery Rooms on August 5, 2020
(3) Units 2 and Unit 3, Fire Area 16-A, Spreading Room B on August 21, 2020
(4) Unit 2, Fire Area 02-03, Reactor Building Elevation 593', on September 29, 2020

Fire Brigade Drill Performance Sample (IP Section 03.02) (1 Sample)

(1) The inspectors evaluated the onsite fire brigade training and performance during an unannounced fire drill on August 25, 2020

71111.07T - Heat Sink Performance

Triennial Review (IP Section 03.02) (4 Samples)

The inspectors evaluated heat exchanger/sink performance on the following components from July 20, 2020 to July 24, 2020:

(1) Unit 2 Core Spray Room Coolers (2-CLR-064-0072 & 2-CLR-064-0073), Section 02.02c
(2) Residual Heat Removal Pump Seal Heat Exchangers 3A & 3B (3-HEX-074-0005 & 3-HEX-074-0028), 02.02c

(3) Unit Station Service Transformer 2A Oil Coolers (2-OXF-243-0002A), 02.02c
(4) Residual Heat Removal Service Water System, Section 02.02.d. Specifically sections 02.02.d.4 and 02.02.d.5 were completed

71111.11B - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Requalification Program (IP Section 03.04)

71111.11B - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Requalification Program (IP Section 03.04) (1 Sample)

The inspectors completed an inspection to verify the licensee's ability to evaluate the performance of their licensed operators during the conduct of examinations, to assess their ability to properly develop and administer requalification annual operating tests and biennial written examinations, to evaluate the performance of the control room simulator and their testing and maintenance of the simulator, to ensure that licensed individuals satisfy the conditions of their licenses, and to assess their effectiveness in ensuring that operator license conditions are satisfied.

(1) Biennial Requalification Written Examinations

The inspectors evaluated the quality of the licensed operator biennial requalification written examinations administered in November 2019.

Annual Requalification Operating Tests

The inspectors evaluated the adequacy of the facility licensee's annual requalification operating test.

Administration of an Annual Requalification Operating Test

The inspectors evaluated the effectiveness of the facility licensee in administering requalification operating tests required by 10 CFR 55.59(a)(2) and that the facility licensee is effectively evaluating their licensed operators for mastery of training objectives.

Requalification Examination Security

The inspectors evaluated the ability of the facility licensee to safeguard examination material, such that the examination is not compromised.

Remedial Training and Re-examinations

The inspectors evaluated the effectiveness of remedial training conducted by the licensee, and reviewed the adequacy of re-examinations for licensed operators who did not pass a required requalification examination.

Operator License Conditions

The inspectors evaluated the licensee's program for ensuring that licensed operators meet the conditions of their licenses.

Control Room Simulator

The inspectors evaluated the adequacy of the facility licensee's control room simulator in modeling the actual plant, and for meeting the requirements contained in 10 CFR 55.46.

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

(1) The inspectors observed and evaluated licensed operator performance in the Control Room during:
- Unit 2 startup following forced outage, F208, on July 27, 2020
- Unit 1 startup following forced outage, F107, on July 29, 2020

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

(1) The inspectors observed and evaluated licensed operator requalification training in the Unit 2 simulator on July 13, 2020.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (2 Samples)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

(1) Unit 1 and 2, Maintenance Rule Function 031, control bay chilled water following unplanned replacement of train B 85-ton compressor during annual maintenance window.
(2) Maintenance Rule Function 075-B, Core Spray system following multiple failures associated with room coolers.

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed;

(1) Evaluated risk associated with eel grass intrusion during Unit 1 and Unit 2 restart activities including Operational decision-making issue evaluation (ODMI) on July 29, 2020 and July 27, 2020, respectively.

(2) High site aggregate risk due unplanned maintenance activities associated with 2A reactor protection system (RPS) motor generator (MG) set, B control bay chiller and planned maintenance activities on August 10, 2020.
(3) Unit 1, Review of the outage safety plan for refueling outage 1R13 on September 22, 2020.

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (7 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

(1) Units 1 and 2, "A" Control Bay Chiller following maintenance and due to "B" Control Bay Chiller being inoperable on August 11, 2020.
(2) Units 1 and 2, "B" Diesel Generator following replacement of all cells of the "B" Diesel Battery Bank on August 7, 2020.
(3) Unit 2, Core Spray Room Cooler thermal overloads found tripped during surveillance on May 29, 2020.
(4) Units 1, 2 and 3, Control room envelope due to a degraded frame on 1-DOOR-260-0600 on September 15, 2020.
(5) Unit 3, "A" Diesel Generator following a single battery cell being jumpered out on July 16, 2020.
(6) Unit 1, Gas voids identified on Loop I of residual heat removal piping on August 4, 2020.
(7) Unit 2, Main Steam Bypass Valve 1 following erratic valve position indications on September 25, 2020.

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the following post maintenance test activities to verify system operability and functionality:

(1) Unit 2, Post Maintenance Test per Surveillance Requirement 2-SR-3.7.5.1(Q) performed on #1 Turbine Bypass Valve (TBV) following replacement of LVDT Conditioner, LVDT, and Servo cable on July 29, 2020.
(2) Unit 2, Post maintenance test of 2A recirculation pump following seal replacement on July 26, 2020.
(3) Units 1 and 2, Post Maintenance Test of the "B" Diesel Generator DC subsystem per ECI-0-254-BAT002, Replacement and Cleaning of the 125V DC Diesel Generator Battery Cells, after replacement of all of the cells of the "B" Diesel Battery Bank on July 9, 2020.
(4) Unit 2, Post Maintenance Test of 2A Reactor Protection System MG Set per ECI-0-099-MGZ001, Component Replacement and Maintenance on the RPS M-G Sets, after motor replacement per work order #121510204 on August 12, 2020.
(5) Units 1 and 2, Post Maintenance Test of A Diesel Generator per 0-SR-3.8.1.1(A), Diesel Generator 'A' Monthly Operability Test after performance of 4-year inspection per work order # 120746589 on August 30-31, 2020.

(6) Unit 1, Post maintenance test of reactor core isolation cooling system following a planned maintenance outage on September 6, 2020.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

(1) 3-SR-3.8.1.8, 480V Load Shedding Logic System Functional Test on August 19, 2020.
(2) 3-SR-3.5.1.7, HPCI Main and Booster Pump Set Developed Head and Flow Rate Test at Rated Reactor Pressure, on September 9, 2020.

Inservice Testing (IP Section 03.01) (2 Samples)

(1) 2-SR-3.5.1.7(COMP), HPCI Comprehensive Pump Test on September 16, 2020.
(2) 0-SI-4.5.C.1(B2), RHRSW Quarterly Pump Test on September 8, 2020.

71114.03 - Emergency Response Organization Staffing and Augmentation System

Inspection Review (IP Section 02.01-02.02) (1 Sample)

(1) The inspector completed the evaluation of the readiness of the Emergency Response Organization (ERO) on August 24, 2020. This was a continuation of an inspection that was performed remotely during the week of May 4, 2020 but was unable to be completed due to aspects that did not lend themselves to being performed remotely. Inspection Report 2020-002 documented the initial inspection activities.

71114.05 - Maintenance of Emergency Preparedness

Inspection Review (IP Section 02.01 - 02.11) (1 Sample)

(1) The inspector completed the evaluation of the maintenance of the emergency preparedness program on August 24, 2020. This was a continuation of an inspection that was performed remotely during the week of May 4, 2020 but was unable to be completed due to aspects that did not lend themselves to being performed remotely. Inspection Report 2020-002 documented the initial inspection activities.

71114.06 - Drill Evaluation

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

(1) Classifications and notifications during licensed operator requalification simulator training on July 20, 2020.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS06: Emergency AC Power Systems (IP Section 02.05) (3 Samples)

(1) Unit 1 (July 1, 2019 - June 30, 2020)
(2) Unit 2 (July 1, 2019 - June 30, 2020)
(3) Unit 3 (July 1, 2019 - June 30, 2020)

MS09: Residual Heat Removal Systems (IP Section 02.08) (3 Samples)

(1) Unit 1 (July 1, 2019 - June 30, 2020)
(2) Unit 2 (July 1, 2019 - June 30, 2020)
(3) Unit 3 (July 1, 2019 - June 30, 2020)

MS10: Cooling Water Support Systems (IP Section 02.09) (3 Samples)

(1) Unit 1 (July 1, 2019 - June 30, 2020)
(2) Unit 2 (July 1, 2019 - June 30, 2020)
(3) Unit 3 (July 1, 2019 - June 30, 2020)

71153 - Followup of Events and Notices of Enforcement Discretion

Event Followup (IP Section 03.01) (1 Sample)

(1) On July 20-21, 2020, the inspectors evaluated an eel grass intrusion event in the forebay and licensee response that resulted in a scram on Units 1 and 2, and a power reduction on Unit 3.

Event Report (IP Section 03.02) (1 Sample)

The inspectors evaluated the following licensee event reports (LERs):

(1) LER 05000296/2020-001-00, Automatic Actuation of Emergency Diesel Generators Due to an Offsite Lightning Strike, (ADAMS Accession No. ML20125A102)

The inspectors determined that it was not reasonable to foresee or correct the cause discussed in the LER therefore no performance deficiency was identified. The inspectors did not identify a violation of NRC requirements.

Personnel Performance (IP Section 03.03) (1 Sample)

(1) The inspectors evaluated licensee's follow-up to a control rod being mispositioned during startup of Unit 1 on July 30, 2020.

INSPECTION RESULTS

Failure to Properly Implement Procedural Requirements to Resolve a Mispositioned Control Rod.			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section

Barrier Integrity	Green NCV 05000259/2020003-01 Open/Closed	[H.9] - Training	71153

The inspectors identified a Green finding and associated Non-cited Violation (NCV) of Technical Specification 5.4.1, Procedures, when the licensee failed to comply with 1-AOI-85-7, Mispositioned Control Rod, by placing a mispositioned control rod in a position not prescribed by procedural requirements.

Description: On July 30, 2020 during control rod withdrawal to support power ascension during startup of Unit 1, the operator-at-the-controls (OATC) withdrew a control rod to position 24 before realizing he had passed the control rod's intended position of 14. The Unit 1 crew entered Abnormal Operating Instruction 1-AOI-85-7, Mispositioned Control Rod. 1-AOI-85-7 requires a control rod that is greater than 2 notches from its intended position to be inserted to position 00 (fully inserted). The Unit 1 nuclear unit senior operator (NUSO) consulted with the observing reactor engineer (RE) and directed the OATC to insert the mispositioned control rod to its intended position, 14, contrary to the 1-AOI-85-7 requirement to place the rod at position 00. The NUSO requested the RE model the event with the rod at position 24 and determined that adequate margin to all thermal limits and pre-conditioning limits had been maintained.

The Unit 1 operators were then relieved. The relief NUSO requested the RE to model the control rod at positions 14 and 00 and requested a control rod movement data sheet (Attachment 1 of 1-SR-3.1.3.5(A), Control Rod Coupling Integrity Check) for moving the control rod to position 00. Approximately 54 minutes after the control rod was mispositioned, it was inserted to position 00 as required by 1-AOI-85-7.

On September 9, 2020, the inspectors met with the developer of the licensee's Level 2 Evaluation Report, which had been completed on September 1, 2020. The inspectors informed the licensee that the Level 2 Evaluation Report did not include any details or evaluation of the fact that the mispositioned control rod was inserted to position 14 before being inserted to position 00 as required by 1-AOI-85-7. The licensee completed a revision of their Level 2 Evaluation Report on September 23, 2020 to analyze the execution of 1-AOI-85-7.

Corrective Actions: The licensee performed stand downs for operating crews to ensure that appropriate procedures were reviewed prior to reactivity manipulations. The operating crew was prescribed remediation prior to presumption of duties. The licensee completed a revised Level 2 Evaluation Report.

Corrective Action References: Condition Report #1627098

Performance Assessment:

Performance Deficiency: The licensee’s failure to follow the unit abnormal operating instruction for a mispositioned control rod was a performance deficiency. Specifically, the operators maneuvered a mispositioned control rod to its previously intended position of 14 instead of 00 as prescribed by 1-AOI-85-7.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Human Performance attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused

by accidents or events. Specifically, procedural requirements intended to minimize challenges to fuel cladding integrity were not implemented correctly. Prior to placing the mispositioned control rod to position 00, the operating crew maneuvered the control rod from position 24 to position 14 for approximately 54 minutes. 1-AOI-85-7 had no provisions for placing the mispositioned control rod at any position other than 00 when a control rod has been mispositioned by greater than two notches.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Using Barrier Integrity screening questions, the finding was determined to be of very low safety significance (Green) because the fuel cladding integrity was not challenged by the delay in placing the control rod at position 00.

Cross-Cutting Aspect: H.9 - Training: The organization provides training and ensures knowledge transfer to maintain a knowledgeable, technically competent workforce and instill nuclear safety values. The inspectors determined that operator training did not include training specifically for a control rod being mispositioned by more than two notches by an operator.

Enforcement:

Violation: Technical Specification 5.4.1, "Procedures," requires in part that written procedures shall be established, implemented, and maintained covering the activities related to procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Section 6, "Procedures for Combating Emergencies and Other Significant Events," includes "Mispositioned Control Rod or Rods." 1-AOI-85-7, "Mispositioned Control Rod," Revision 6, Section 4.2.[3] states, in part, that if the control rod is greater than two notches from its intended position, then insert the mispositioned rod to "00." Contrary to the above, on July 30, 2020, the operations crew maneuvered the mispositioned control rod to position 14 for approximately 54 minutes while performing other activities before inserting the control rod to position 00.

Enforcement Action: This violation is being treated as an non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

EXIT MEETINGS AND DEBRIEFS

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

- On October 23, 2020, the inspectors presented the integrated inspection results to Mr. Steven M. Bono, Site Vice President, and other members of the licensee staff.
- On July 24, 2020, the inspectors presented the Triennial Heat Sink Exit Meeting inspection results to S. M. Bono, Site Vice President and other members of the licensee staff.
- On August 28, 2020, the inspectors presented the Management Debrief inspection results to S. Bono, Site VP and other members of the licensee staff.
- On September 29, 2020, the inspectors presented the Requalification Inspection Exit inspection results to S. Bono and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.04	Calculations	MDQ0063920470	Standby Liquid Control System - Boron 10 Requirements	5
	Corrective Action Documents	CRs 1558895, 1604231, 1611484, 1615183, 1630408		
	Drawings	0-37W205-5	Mechanical Pumping Station and Water Treatment - Piping and Equipment	Revision 15
		1-47E858-1	Flow Diagram RHR Service Water System	Revision 72
		1-47E859-1	Flow Diagram Emergency Equipment Cooling Water	Revision 99
		2-47E2865-4	Mechanical Ventilation and Air Conditioning Air Flow Diagram	Revision 22
		3-47E854-1	Flow Diagram Standby Liquid Control System	14
	Procedures	0-OI-31	Control Bay and Off-Gas Treatment Building Air Conditioning System	Revision 163
		3-SR-3.1.7.7	Standby Liquid Control System Functional Test	40
		NFPA 805 Fire Protection Report	Section 4	Revision 2
71111.05	Corrective Action Documents	CR 1632219		
	Miscellaneous		Drill Evaluations from 1/6/2020, 2/20/2020, 2/26/2020, 3/20/2020, 5/14/2020, 5/21/2020, 5/28/2020, 6/12/2020, 5/1/2017, 5/2/2017, 5/10/2017, 5/10/2017, 5/11/2017	
	Procedures	FPDP-5	Development and Evaluation of Fire Drills	Revision 6
		FPR-Volume 2	Fire Protection Report Volume 2	Revision 67
		NFPA 805 Fire Protection Report	Appendix C	Revision 4
		TPD-FBT	Fire Brigade Training - Training Program Description	Revision 17
71111.07T	Calculations	MDQ0067880344	EECW System Design Pressure and Temperature Analysis	Revision 011
		MDQ0067910008	Flow Requirements for EECW-Fed Components	Revision 017
		NDN-000-023-2007-0026	BFN Probabilistic Risk Assessment - Residual Heat Removal Service Water System	Revision 004

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Corrective Action Documents	1333219, 1424931, 1441556, 1498980, 1525473, 1543185, 1563233, 1566676, 1621239, 1621907		
	Engineering Changes	DCN 71313	RHRSW Pump Replacement Modification	Revision A
	Procedures	0-AOI-100-4	Breach of Wheeler Dam	Revision 0016
		0-AOI-27-1	Component Biofouling	Revision 0012
		0-TI-522	Program for Implementing NRC Generic Letter 89-13	Revision 0009
		2-TI-134	Core Spray and Residual Heat Removal Room Coolers Air Flow Verification	Revision 0020
		CI-137	Raw Water Chemical Treatment	Revision 0024
		CI-137.5	Raw Water Chemical Treatment Molluscicide Control	Revision 0044
		EPI-0-242-BUS001	Main Transformer, Unit Station Service Transformer and Associated Bus Work (Major Outage)	Revision 0049
		NPG-SPP-09.7.3	Raw Water Corrosion Program	Revision 0005
	Work Orders	117679908, 117900738, 119231027, 119598647, 119589130, 119699775,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		120012352, 120133867, 120135673, 120136893, 120561301, 120622202		
71111.11B	Corrective Action Documents	CR 1522956	Two licensed operators did not complete all required training for LOR cycle 1901	9/16/2020
	Fire Plans	NPG-SPP-11.8.5 Steady State Drift Test Unit 2	100% Steady State Drift Test U 2	7/29/2020
	Miscellaneous	2019 LOR Exam C	2019 Licensed Operator Requalification Examination C	Rev 0
		2019 Requalification Training Attendance Records	2019 Requalification Training Attendance Records	10/16/2020
		2020 Cycle 1 Simulator Exam Failure Records	2020 Cycle 1 Simulator Exam Failure Records	10/16/2020
		2020 Requalification Training Attendance Records	2020 Requalification Training Attendance Records	10/16/2020
		JPM 141AP U2	JPM 141AP U2	Rev 2
		JPM 173TC	Control Room Abandonment (HS6)	Rev 15
		JPM 18AP U2	EOI Appendix 5C - Injection System Lineup - RCI	Rev 8
		JPM 257A U3	3-EOI Appendix-6D (6E) Injection Subsystem Lineup CS System I (II)	Rev 2
		JPM 265AP U3	Recirculation Pump Recovery with Manual Scram	Rev 2
		JPM 324	3-EOI Appendix 16B Bypassing RCIC Test Mode Isolation Interlocks	Rev 6

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		JPM 345 U3	Alternate RPV Pressure Control HPCI Test Mode	Rev 2
		JPM 355 U3	Emergency Venting Primary Containment	Rev 4
		JPM 5U3	3-EOI Appendix 2 Defeating ARI Logic Trips	Rev 5
		JPM 670A U2	2-EOI Appendix-11F Alternate RPV Pressure Control Systems: RFPT On Minimum Flow	Rev 3
		JPM 711 U1	Bypassing RCIC High Temperature Isolations (Unit 1)	Rev 0
		JPM 713	Load Shed of 250V Main Bank Battery 1, 2, 3 (250V RMOV Board 3B, 3A)	Rev 1
		JPM FSS08A	Start RHR Pump 2C per 2-FSS-16-2, Attachment 3, Section 1	Rev 1
		JPM FSS09	Start RHR Pump 2C per 2-FSS-16-2, Attachment 3, Section 1	Rev 2
		JPM FSS23	Align 4kV Shutdown Board C per 0-FSS-2-3, Attachment 2, Section 1	Rev 0
		LOR-EXAM-10	Simulator Scenario LOR-EXAM-10	Rev 7
		LOR-EXAM-60A	Simulator Scenario LOR-EXAM-60A	Rev 3
		LOR-EXAM-64	Simulator Scenario LOR-EXAM-64	Rev 3
		Medical Records	Operator Medical Records (10)	9/16/2020
		NPG-SPP-11.8.5 Malfunction Test Unit 2 CS04	CS Power Logic Failure	12/11/2019
		NPG-SPP-11.8.5 Steady State Drift Test Unit 3	U3 100% SS Drift Test	7/29/2020
		NPG-SPP-11.8.5 Transient 1 Unit 3	Manual Scram	7/28/2020
		NPG-SPP-11.8.5 Transient 10 Unit 2	MSIV Isolation & Relief Valve Failure	12/10/2019
		NPG-SPP-11.8.5 Transient 2 Unit 2	Unit 2 Simulator - Simultaneous Trip of all FW Pumps	12//2019
		NPG-SPP-11.8.5 Transient 3 Unit 3	Simultaneous Closure of all MSIVs	7/28/2020
		NPG-SPP-11.8.5	Unit 2 Simulator - Single Recirc Pump Trip	12/5/2019

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		Transient 5 Unit 2		
		NPG-SPP-11.8.5 Transient 6 Unit 3	Turbine Trip <30% Power	7/28/2020
		NPG-SPP-11.8.5 Transient 7 Unit 2	Maximum Rate Power Ramp	12/10/2019
		NPG-SPP-11.8.5 Transient 9 Unit 3	Maximum Size Unisolable MSL Rupture	7/29/2020
		OR-EXAM-21	Simulator Scenario OR-EXAM-21	Rev 6
		PG-SPP-11.8.5 Malfunction Test Unit 2 AD01	Relief Valve Failure	7/29/2020
		PG-SPP-11.8.5 Malfunction Test Unit 2 ED17	Loss of 250 V Battery Bus Board 1,2,3,4,5,6	7/29/2020
		PG-SPP-11.8.5 Malfunction Test Unit 2 FW19	FW Line Break in MS Tunnel	12/11/2019
		PG-SPP-11.8.5 Malfunction Test Unit 2 FW19	Feedwater Line Break in Main Steam Tunnel	12/11/2019
		PG-SPP-11.8.5 Malfunction Test Unit 2 NM05	Variable Failure of IRM Attenuator	12/11/2019
		PG-SPP-11.8.5 Malfunction Test Unit 3 CU04	RWCU System Suction Line Break	7/29/2020
		Reactivation Record	One Reactivation Record	10/16/2020
71111.11Q	Procedures	1-GOI-100-1A	Unit Startup	Revision 58
		2-GOI-100-1A	Unit Startup and Power Operation	Revision 179
		NPG-SPP-17.8.4	Conduct of Simulator Operations	Revision 7
		OPDP-1	Conduct of Operations	Revision 46
71111.12	Corrective Action Documents	CR 1612226, 1620331,		

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		1620905, 1522117		
		CRs 1629318, 1630063, 1638469, 1638487, 1628680		
		WO 121510085		
	Miscellaneous		Air Conditioning System 031 (a)(1) Plan	13
			Maintenance Rule Expert Panel Package	09/21/2020
	Procedures	0-TI-346	Maintenance Rule Performance Indicator Monitoring, Trending and Reporting - 10CFR50.65	Revision 53
71111.13	Corrective Action Documents	CR 1625169		
	Drawings	2-45#751-3	Wiring Diagram 480V Reactor MOV Bd 2B	Revision 53
		2-45E749-4	Wiring Diagram 480V Shutdown Bd 2B Single Line	Revision 53
	Miscellaneous		Unit 1 Cycle R13, Outage Safety Plan	09/21/2020
			Operational Decision-Making Issue Evaluation Document for CR 1625169	07/24/2020
	Procedures	0-OI-31	Control Bay and Off-Gas Treatment Building Ventilation Air Conditioning System	Revision 162
		2-OI-99	Reactor Protection System	Revision 90
		BFN-ODM-4.18	Protected Equipment	Revision 27
		OPDP-11	Operational Decision-Making Issue Evaluation Process	Revision 8
71111.15	Corrective Action Documents	CR 161226	Thermal overloads found tripped for Core Spray room cooler	06/04/2020
		CR 1627940, 1435268		
		CR 1631820, 1615815		
		CRs 1622321, 1622527, 1637208, 1585280, 1587042		

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		CRs 1640334, 1640153, 1626190, 1626176, 1610483		
	Drawings	0-46E401-13	Architectural Control Bay Plans & Details	Revision 6
		1-47E811-1	Flow Diagram Residual Heat Removal System	Revision 47
		BFN-2-45E602-38	Elementary Diagram Turbine Control	1
		BFN-2-9952-569 sh.20	TVA Browns Ferry Unit #2 Bypass Valve Control Wiring	2
	Miscellaneous	Laboratory Report 5692	KCR-07: Cracked Jar	02/14/2020
		Engineering Work Request 20-EEB-047-238	Lift Servo Wires to Disable U2 BPV #1 in the Closed Position	09/27/2020
		TVA-COLR-BF2C21	Browns Ferry Unit 2 Cycle 21 Core Operating Limits Report	0
	Operability Evaluations		Past Operability Evaluation Documentation for CR 1612226	06/03/2020
		PDO for CR 1627940		
	Procedures		NFPA 805 Fire Protection Requirements Manual	Revision 13
		0-SR-3.8.6.2(DG-B)	Quarterly Check of Diesel Generator B Battery	10
		0-SR-3.8.6.2(DG-B)	Quarterly Check of Diesel Generator B Battery	10
		1-OI-74	Residual Heat Removal System	Revision 109
		2-SI-4.2.B-60FT(I)	Core Spray Pump Area Cooler Fan Thermostat Functional (2-TS-64-72)	Revision 0007
	Work Orders	WO 118569273, 117446738		
		WO 120867970		
		WOs 121456462, 120134881, 119697369		

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		WOs 121619276, 120399540, 121549320, 121363784		
71111.19	Corrective Action Documents	CR 1634674		
	Drawings	1-47E813-1	Flow Diagram Reactor Core Isolation Cooling System	Revision 42
	Procedures	0-TI-106	General Leak Rate Test Procedure	Revision 16
		1-SR-3.5.3.3	RCIC System Rated Flow at Normal Operating Pressure	Revision 41
		1-SR-3.6.1.3.5(RCIC)	RCIC System MOV Operability	Revision 17
		2-OI-68	Reactor Recirculation System	Revision 159
		MMTP-141	Routine Inspection and Maintenance of Limitorque Motor Actuators	Revision 2
		NPG-SPP-06.3	Pre-/Post-Maintenance Testing	Revision 3
		NPG-SPP-06.9.1	Conduct of Testing	Revision 12
	Work Orders	WO 120896842, 121581151, 120896819. 120943508, 120952882, 1209433512, 120943542		
		WO 121445637		
		WO 121491094, 121487577, 121487344		
71111.22	Corrective Action Documents	CR 1524175, 1529425		
	Engineering Evaluations	0-TI-579	RHRSW System Pump Baseline Data Evaluation	Revision 7
	Procedures	0-SI-4.5.C.1	RHRSW Pump B2 IST Group A Quarterly Pump Test	Revision 12
	Work Orders	WO 120896630		
71114.06	Procedures	EPIP-1	Emergency Classification Procedure	Revison 60

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		NPG-SPP-17.8.4	Conduct of Simulator Operations	Revision 7
71151	Miscellaneous		Units 1, 2, and 3 Residual Heat Removal system MSPI Margin and Derivation Reports	07/01/2019 - 06/30/2020
			Units 1, 2, and 3 Emergency AC Power System MSPI Margin and Derivation Reports	07/01/2019 - 06/30/2020
			Units 1, 2, and 3 Residual Heat Removal Service Water and Emergency Equipment Cooling Water systems MSPI Margin and Derivation Reports	07/01/2019 - 06/30/2020