



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

November 9, 2021

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
05000259/2021003, 05000260/2021003, 05000296/2021003 AND
07200052/2021001

Dear Mr. Barstow:

On September 30, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Browns Ferry Nuclear Plant. On October 27, 2021, the NRC inspectors discussed the results of this inspection with Mr. Daniel Komm and other members of your staff. The results of this inspection are documented in the enclosed report.

Two findings of very low safety significance (Green) are documented in this report. Two of these findings involved violations of NRC requirements. One Severity Level IV violation without an associated finding is documented in this report. We are treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

A licensee-identified violation which was determined to be of very low safety significance is documented in this report. 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 violations or the significance or severity of the violations 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."

J. Barstow

2

Sincerely,

/RA/

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

Docket Nos. 05000259, 05000260, 05000296 and 07200052
License Nos. DPR-33, DPR-52 and DPR-68

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

SUBJECT: BROWNS FERRY NUCLEAR PLANT – INTEGRATED INSPECTION REPORT
 05000259/2021003, 05000260/2021003, 05000296/2021003 and
 07200052/2021001 November 9, 2021

DISTRIBUTION:

M. Kowal
 S. Price
 RidsNrrPMBrownsFERRY
 RidsNrrDroResource
 PUBLIC

ADAMS ACCESSION NUMBER: ML21314A186

<input type="checkbox"/> SUNSI Review		<input type="checkbox"/> Non-Sensitive <input type="checkbox"/> Sensitive		<input type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available	
OFFICE	RII/DRP	RII/DRP	RII/DRP	RII/DRP	RII/DRP
NAME	P. Cooper	N. Karlovich	M. Kirk	J. Steward	J. Tapp
DATE	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
OFFICE	RII/DRP				
NAME	T. Stephen				
DATE	11/09/2021				

OFFICIAL RECORD COPY

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

Docket Numbers: 05000259, 05000260, 05000296 and 07200052

License Numbers: DPR-33, DPR-52 and DPR-68

Report Numbers: 05000259/2021003, 05000260/2021003, 05000296/2021003 and
07200052/2021001

Enterprise Identifier: I-2021-003-0024 and I-2021-001-0013

Licensee: Tennessee Valley Authority

Facility: Browns Ferry Nuclear Plant

Location: Athens, Alabama

Inspection Dates: July 01, 2021 to September 30, 2021

Inspectors: P. Cooper, Senior Reactor Inspector
N. Karlovich, Resident Inspector
M. Kirk, Resident Inspector
J. Steward, Senior Resident Inspector
J. Tapp, Transportation & Storage Inspector

Approved By: Thomas A. Stephen, Chief
Reactor Projects Br #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. A licensee-identified non-cited violation is documented in report section: 71153.

List of Findings and Violations

Failure to Perform a 10 CFR 50.59 Evaluation in Accordance with Site Procedures			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000259,05000260,05000296/2021003-01 Open/Closed	None (NPP)	60855
The inspectors identified a Green, non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” associated with the licensee’s failure to follow the requirements of site procedure NPG-SPP-09.4, “10 CFR 50.59 Evaluations of Changes, Tests, and Experiments.” Specifically, site personnel made changes to procedure 0-TI-561, “Underground Piping and Tanks Integrity Program,” a procedure described in the UFSAR, without performing a 10 CFR 50.59 evaluation as required by site procedures.			
Inadequate Procedures Result in Operation of the Facility in a Prohibited area of the Power to Flow Map			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000260/2021003-02 Open/Closed	[H.1] - Resources	71111.15
A self-revealed Green finding and associated NCV of Technical Specification 5.4.1, “Procedures” was identified by the licensee’s failure to provide adequate written procedures to control the facility while operating at reduced power and core flow and remove extraction steam from feedwater heaters such that margin to the Maximum Extended Load Line Limit Analysis Plus (MELLLA+) operating limit was maintained. Operating the facility at reduced feedwater temperature, reduced power and core flow, ultimately resulted in an elevated load line which exceeded 100.7 percent load line, which is a violation of the Unit 2 Renewed Facility Operating License Condition 2.C.(22). License Condition 2.C.(22) states that the licensee shall not operate the facility within the MELLLA+ operating domain with more than a 10 degree Fahrenheit (F) reduction in feedwater temperature below the design feedwater temperature.			
Unit 2 Inoperable Technical Specifications Required Main Steam Isolation Valve			
Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000260/2021003-03	Not Applicable	71153

	Open/Closed		
<p>A self-revealed Severity Level IV NCV of Technical Specification (TS) Limiting Condition for Operation (LCO) 3.6.1.3, "Primary Containment Isolation Valves (PCIV)" was identified when operators attempted to close the C Inboard Main Steam Isolation Valve (MSIV) in accordance with station operating procedures and the MSIV unexpectedly re-opened after closure without additional operator action.</p>			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000260/2021-001-00	LER 2021-001-00 for Browns Ferry Nuclear Plant, Unit 2, Inoperability of a TS-required Main Steam Isolation Valve	71153	Closed
LER	05000260/2021-001-01	LER 2021-001-01 for Browns Ferry Nuclear Plant, Unit 2, Inoperability of a TS-required Main Steam Isolation Valve	71153	Closed

PLANT STATUS

Unit 1 began the inspection period at 100 percent rated thermal power (RTP). On August 27, 2021, the Unit performed a planned downpower to 70 percent RTP to perform a control rod sequence exchange and other planned testing. Unit 1 returned to RTP on August 28, 2021, where it remained through the end of the inspection period.

Unit 2 began the inspection period at RTP. On September 17, 2021, the Unit performed a planned downpower to 60 percent RTP to perform a control rod sequence exchange and other planned maintenance and testing. Unit 2 returned to RTP on September 19, 2021, where it remained through the end of the inspection period.

Unit 3 began the inspection period at RTP. On September 11, 2021, the Unit performed a planned downpower to 70 percent RTP to perform a control rod sequence exchange and other planned testing. Unit 3 returned to RTP later that day following completion of the planned testing. Unit 3 operated at or near RTP through the end 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 a 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

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal hot temperatures for the following systems:

Station transformers and condenser circulating water traveling water screens on July 1, 2021

Impending Severe Weather Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the adequacy of the overall preparations to protect risk-significant systems from impending severe weather from Tropical Storm Ida on August 30, 2021

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

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

- (1) Standby Gas Treatment (SGT) System Train C while SGT Train B was removed from service for planned maintenance on July 16, 2021
- (2) Safety related main bank batteries 1, 2 and 3 alignment during planned maintenance on main bank battery 2 on July 21, 2021
- (3) Unit 1, Core spray (CS) division I while division II removed from service during planned maintenance on August 18, 2021

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

- (1) The inspectors evaluated system configurations during a complete walkdown of the Unit 3 Standby Liquid Control (SLC) system on September 20, 2021

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (7 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) Units 1, 2 and 3, Fire Area YARD, Standby Gas Treatment Building Elevation 565' on July 21, 2021
- (2) Unit 1, Fire 01-04, Residual heat removal (RHR) heat exchanger rooms on July 23, 2021
- (3) Unit 3, Fire Area 03-03, Residual heat removal heat exchanger room on July 30, 2021
- (4) Unit 2, Fire Areas 02-04 and 02-03, Reactor Building Elevation 593' on August 13, 2021
- (5) Unit 1, Fire Area 01-03, Reactor building 593' North on August 31, 2021
- (6) Units 1 and 2, Fire Area 5, Electric board room 1A 250V Battery Rooms on September 30, 2021
- (7) Unit 3, Fire Area 19, Unit 3 battery and battery board room on September 30, 2021

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Unit 1, Reactor Building area 565' elevation on September 3, 2021

71111.11Q - Licensed Operator Regualification 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 Unit 1 Control Room during the following:
 - Planned down power activities to 70 percent RTP to support a rod sequence exchange, Main steam isolation valve (MSIV) and turbine control valve (TCV) testing on August 27, 2021
 - Power ascension from 83 percent RTP to 97 percent RTP with recirculation flow on August 28, 2021

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

- (1) The inspectors observed and evaluated training scenarios OPL 173S359 and OPL175S453 on July 29, 2021

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) Units 1, 2 and 3, Motor control centers/breakers containing CR 105/109 motor starters currently in Maintenance Rule (a)(1) status
- (2) Unit 1, 2 and 3, Function 84-B, Nitrogen supply to containment currently in Maintenance Rule (a)(1) status due to exceeding component level unreliability performance criteria

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (6 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) Units 1, 2 and 3, Elevated risk due to a Power Supply Alert and Emergency Load Curtailment procedures on July 28, 2021

- (2) Unit 1, Elevated risk (yellow) due to 1B Reactor Motor Operated Valve (RMOV) Board Normal Feeder Breaker Replacement on August 25, 2021
- (3) Unit 1, Elevated risk due to multiple, ongoing work activities resulting in medium site aggregate risk on August 24, 2021
- (4) Units 1, 2 and 3, Risk associated with critical lift of the C2 residual heat removal service water (RHRSW) pump and motor on September 1, 2021
- (5) Unit 1, Elevated risk associated with a heavy load lift of the spare low pressure turbine rotor from the turbine operating floor for transport to an offsite storage location on September 7, 2021
- (6) Units 1 and 2, Risk associated with unplanned maintenance due to discovery of a battery cell on Shutdown Board Battery-D not meeting technical specifications criteria on September 27, 2021

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (10 Samples)

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

- (1) Unit 2, Operating in the Maximum Extended Load Line Limit Analysis Plus (MELLLA+) region of the Power to Flow Map with reduced feedwater temperature documented under Condition Report (CR) 1699093 on July 5, 2021
- (2) Unit 1, Ground identified on SB-A when restoring from maintenance activities related to CS pump 1C breaker on July 1, 2021
- (3) Units 1, 2 and 3, Control room emergency ventilation train B damper (0-FCO-031-7212) stroke time greater than value stated in procedure and broken selector switch documented under CR 1706925 and 1706547 on July 12, 2021
- (4) Unit 3, Off Gas Post Treatment Rad Monitors 3-RM-090-265 and 3-RM-090-266 Functionality Assessment documented under CR 1709055 on August 10, 2021.
- (5) Unit 3, 3C Emergency diesel generator (EDG) failed to shutdown documented under CR 1714276 on September 1, 2021.
- (6) Unit 1, RHR System I outboard injection valve, 1-FCV-74-52, implementation of design change BFN 18-033-1 and the evaluation of test results for ASME OM Code Inservice Testing Program per under CR 1714530 and 1712533 on September 8, 2021
- (7) Unit 3, 3C CS pump engineering evaluation following discovery of differential pressure in the high admin range on August 5, 2021
- (8) Unit 3, High pressure coolant injection (HPCI) auxiliary oil pump noisy condition resulted in a past operability evaluation in accordance with CR 1720120 on September 21, 2021
- (9) Units 1, 2, and 3 Level Transmitters BFN-0-LT-027-0121B and BFN-0-LT-027-0122B calibration required for closure of DCN under CR 1712986 on September 21, 2021
- (10) Unit 3 Unidentified drywell leakage is rising and documented under CR 1715951 on September 7, 2021

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

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

- (1) Unit 2, ASME Section XI System Leakage Test on all Class 1 system piping per Work Order (WO) 120837744 on July 4, 2021
- (2) Unit 2 Main turbine bypass valve No. 1 per WO 121168340 on July 4, 2021
- (3) Units 1, 2 and 3, SGT train B per WO 121379830 on July 15, 2021
- (4) 2-SR-3.3.3.2.1(69) Backup Control Panel Testing after replacement of the 2-HS-69-17C hand switch for 2-FCV-69-17, Reactor water clean up to radwaste isolation valve on September 2, 2021
- (5) Units 1, 2 and 3, C2 RHRSW pump following replacement of the pump and motor on September 4, 2021

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (1 Sample)

- (1) Unit 1, Reactor protection system circuit protector calibration/functional test for 1B1 and 1B2 on August 20, 2021

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) Units 1, 2 and 3, Quarterly in service test of A3 RHRSW pump on July 26, 2021

RCS Leakage Detection Testing (IP Section 03.01) (1 Sample)

- (1) Unit 1, Drywell Floor Drain Leakage Rate slow rise documented under CR 1719254 which also triggered entry into Action Level 3 of Inspection Manual Chapter 2515, Appendix D, Attachment 1 on September 8, 2021

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, 2020–June 30, 2021)
- (2) Unit 2 (July 1, 2020–June 30, 2021)
- (3) Unit 3 (July 1, 2020–June 30, 2021)

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

- (1) Unit 1 (July 1, 2020 - June 30, 2021)
- (2) Unit 2 (July 1, 2020 - June 30, 2021)
- (3) Unit 3 (July 1, 2020 - June 30, 2021)

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

- (1) Unit 1 (July 1, 2020 - June 30, 2021)
- (2) Unit 2 (July 1, 2020 - June 30, 2021)
- (3) Unit 3 (July 1, 2020 - June 30, 2021)

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

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

- (1) Chemistry samples not obtained at the required sampling interval in accordance with Offsite Dose Calculation Manual on June 16, 2021

71153 - Follow Up of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (1 Sample)

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

- (1) LER 05000260/2021-001-01, Inoperability of a Technical Specifications required Main Steam Isolation Valve (ADAMS Accession No. ML21232A618)

The inspectors reviewed the updated LER submittal as stated herein, as well as the original LER 50-260/2021-001-00, ADAMS Accession No. ML21172A305. 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 inspection conclusions associated with this LER are documented in this report under Inspection Results Section 71153.

Personnel Performance (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated the failure of C2 RHRSW pump and motor following planned maintenance activities on August 25, 2021

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

60855 - Operation of an ISFSI

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) 2690, "Inspection Program for Storage of Spent Reactor Fuel and Reactor-Related Greater-than-Class C Waste at Independent Spent Fuel Storage Installations (ISFSI) and for 10 CFR Part 71 Transportation Packaging's."

Operation of an ISFSI (1 Sample)

(1) Operation of an Independent Spent Fuel Storage Installation

From June 28 through July 2, 2021, the inspectors performed a review of the licensee’s ISFSI activities to verify compliance with regulatory requirements. During the on-site inspection, the inspectors observed and reviewed licensee activities in each of the five safety focus areas including occupational exposure, public exposure, fuel damage, confinement, and impact to plant operations.

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. Additionally, the inspectors performed independent walkdowns of the heavy load lifting equipment and the ISFSI haul path. The inspector also performed an independent radiation survey of the ISFSI pad.

INSPECTION RESULTS

Failure to Perform a 10 CFR 50.59 Evaluation in Accordance with Site Procedures			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000259,05000260,05000296/20210 03-01 Open/Closed	None (NPP)	60855
<p>The inspectors identified a Green, non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” associated with the licensee’s failure to follow the requirements of site procedure NPG-SPP-09.4, “10 CFR 50.59 Evaluations of Changes, Tests, and Experiments.” Specifically, site personnel made changes to procedure 0-TI-561, “Underground Piping and Tanks Integrity Program,” a procedure described in the UFSAR, without performing a 10 CFR 50.59 evaluation as required by site procedures.</p> <p><u>Description:</u> The inspectors reviewed the “Browns Ferry Nuclear Plant, 10 CFR 72.212 Report of Evaluations for the HI-STORM FW System” and noted that the transport route (haul path) from the Reactor Building to the Independent Spent Fuel Installation (ISFSI) passes over safety related commodities, including buried piping. Calculation CDQ042020031120, “Evaluation of Cask Transporter Haul Route (Holtec Report HI-2022947 for the Dry Cask Storage Project)” was developed in 2006 and is the 10 CFR 72.212 evaluation that demonstrates that the underground utilities can withstand the resulting pressure imposed by the transporter carrying a fully loaded cask. The inspectors reviewed the calculation to verify ISFSI operations will not compromise plant underground safe shutdown equipment and identified that the methodology used to show the underground piping can withstand the resulting pressure used a 100% wall thickness input value as the condition of the piping.</p> <p>Browns Ferry Nuclear Plant, Unit 2 entered the period of extended operation in December of 2013, and as part of the renewed license, has implemented aging management programs. The Buried Piping and Tanks Program (UFSAR Section O.1.28) is an aging management program that inspects buried piping for coating damage when excavated. Additionally, the UFSAR states that if coating damage is found, then a corrosion inspection will be</p>			

performed. Site procedure 0-TI-561, "Underground Piping and Tanks Integrity Program," is the site-specific maintenance procedure that details the methodology and acceptance criteria for these inspections.

The inspectors reviewed procedure 0-TI-561, "Underground Piping and Tanks Integrity Program" and identified that the acceptance criteria permits the degradation of the underground piping to a wall thickness of 87.5% without requiring any further corrective actions. The inspector reviewed past procedure changes to 0-TI-561, "Underground Piping and Tanks Integrity Program," and identified that the changes to the acceptance criteria were implemented in 2012.

Site procedure NPG-SPP-09.4, "10 CFR 50.59 Evaluations of Changes, Tests, and Experiments," establishes requirements to review and evaluate changes, tests, and experiments as required by 10 CFR 50.59. Specifically, section "2.0 Scope" states that evaluations are required for proposed changes to procedures described in the UFSAR. The inspector reviewed changes to site procedure 0-TI-561, "Underground Piping and Tanks Integrity Program," (UFSAR Section O.1.28 Buried Piping and Tanks Inspection Program) and identified that the procedure changes were made in 2012 without performing a 10 CFR 50.59 evaluation as required by site procedures. The inspector reviewed the licensee's process for procedure changes and concluded that the administrative controls were in place to ensure procedures described in the UFSAR were evaluated in accordance with 10 CFR 50.59. However, through discussions with plant personnel it was determined that site personnel incorrectly concluded that the procedure did not require an evaluation since it was labeled as a maintenance procedure.

The failure to perform the 10 CFR 50.59 evaluation, in accordance with site procedures, prior to implementing the change to site procedure 0-TI-561, "Underground Piping and Tanks Integrity Program," made it unclear whether the Calculation CDQ042020031120, "Evaluation of Cask Transporter Haul Route (Holtec Report HI-2022947 for the Dry Cask Storage Project)" continued to demonstrate that ISFSI operations will not compromise plant underground safe shutdown equipment.

Corrective Actions: The licensee performed a preliminary review and determined through engineering judgement that there is sufficient margin to accommodate the change from 100% wall thickness to 87.5% wall thickness to ensure that ISFSI operations will not compromise plant underground safe shutdown equipment.

Corrective Action References: CR# 1723358

Performance Assessment:

Performance Deficiency: The inspector determined that the failure to perform a 10 CFR 50.59 evaluation in accordance with site procedure NPG-SPP-09.4, "10 CFR 50.59 Evaluation of Changes, Tests, and Experiments" was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to follow site procedure NPG-SPP-09.4, "10 CFR 50.59 Evaluation of Changes, Tests, and Experiments," to assess changes to site procedure 0-TI-561, "Underground Piping and Tanks Integrity Program," (UFSAR Section O.1.28 Buried

Piping and Tanks Inspection Program) resulted in the sites failure to update calculation CDQ042020031120, "Evaluation of Cask Transporter Haul Route (Holtec Report HI-2022947 for the Dry Cask Storage Project)" which resulted in reasonable doubt that that ISFSI operations would not adversely impact the functionality of plant underground safe shutdown equipment.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.

Cross-Cutting Aspect: Not Present Performance. No cross-cutting aspect was assigned to this finding because the inspectors determined the finding did not reflect present licensee performance.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, "that activities affecting quality shall be prescribed by documented instructions or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions or drawings." Contrary to the above, the licensee failed to ensure that activities affecting quality were accomplished in accordance with prescribed instructions. Specifically, the licensee failed to follow the requirements of procedure NPG-SPP-09.4, "10 CFR 50.59 Evaluation of Changes, Tests, and Experiments" and evaluate changes made to 0-TI-561, "Underground Piping and Tanks Integrity Program," (UFSAR Section O.1.28 Buried Piping and Tanks Inspection Program) for adverse impacts to safety related components.

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

Inadequate Procedures Result in Operation of the Facility in a Prohibited area of the Power to Flow Map

Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000260/2021003-02 Open/Closed	[H.1] - Resources	71111.15

A self-revealed Green finding and associated NCV of Technical Specification 5.4.1, "Procedures" was identified by the licensee's failure to provide adequate written procedures to control the facility while operating at reduced power and core flow and remove extraction steam from feedwater heaters such that margin to the Maximum Extended Load Line Limit Analysis Plus (MELLLA+) operating limit was maintained. Operating the facility at reduced feedwater temperature, reduced power and core flow, ultimately resulted in an elevated load line which exceeded 100.7 percent load line, which is a violation of the Unit 2 Renewed Facility Operating License Condition 2.C.(22). License Condition 2.C.(22) states that the licensee shall not operate the facility within the MELLLA+ operating domain with more than a

10 degree Fahrenheit (F) reduction in feedwater temperature below the design feedwater temperature.

Description:

On June 5, 2021, Unit 2 dayshift operators had relieved the nightshift crew who had reduced power from 100 percent to approximately 70 percent in accordance with 2-GOI-100-2, Power Maneuvering and Reactivity Control Plan (RCP), U2 RCP 210604-000 to support several planned activities including implementation of a Temporary Modification (T-Mod) for the 2C Inboard Main Steam Isolation Valve (MSIV), control rod sequence exchange, turbine control valve testing and MSIV testing. Due to complications with implementation of the T-Mod on the 2C Inboard MSIV, the evolution to remove extraction steam from the A1 and A2 feedwater heaters from service was delayed for approximately 8 hours and was not commenced until about 1600. The Reactor Engineer (RE) made some preliminary calculations that estimated feedwater temperature would be reduced by some 25 degrees F, which would result in an increase of 2.5 percent from 72 percent reactor power but was focused on maintaining reactor power below 75 percent to the point that there was no emphasis to maintain load line below 100.7 percent. The Operating crew had the opportunity to challenge the RE prior to removing extraction steam from high pressure feedwater heaters A1 and A2 per section 8.11.1 of 2-OI-6, Feedwater Heating and Miscellaneous Drains System with respect to maintaining load line below the limit of 100.7 percent but did not do so. The expected load line range listed on the controlling RCP was 90 to 105 percent, which did not account for the 100.7 percent limit on load line for reduced feedwater temperature. During the dayshift xenon continued to burnout but had not reached equilibrium conditions from the nightshift downpower. Immediately following extraction steam isolation to high pressure feedwater heaters A1 and A2, the operating crew identified that Unit 2 was not meeting the reduced feedwater temperature criteria and was operating within the Maximum Extended Load Line Limit Analysis Plus (MELLLA+) region. Operation in this region with feedwater temperature more than 10 degrees F reduction from design feedwater temperature places the Unit in an unanalyzed area, is prohibited and a violation of the facility license condition 2.C.(22).

Corrective Actions: The licensee's immediate corrective actions included insertion of control rods to lower the load line at 1616 from a peak of 105.8 percent and reactor power at 74.8 percent to a load line of 100.0 percent and reactor power to 70.6 percent at 1643. Total time above the 100.7 load line with reduced feedwater temperature is calculated by the licensee to be 33 minutes. On June 8, 2021, licensee Operations department management issued a Standing Order (OS-220) that addressed licensed personnel with the expectation to challenge RCP steps to ensure all critical parameters are defined, and adequate margin exists to perform the reactivity maneuver. Subsequently, a Level 2 apparent cause evaluation concluded that the apparent cause was a lack of awareness by the RE and Operators on the impact of changing plant conditions to operating margin. Contributing causes were: (1) procedures and written guidance used to implement the maneuver did not provide adequate guidance to ensure operating margin was maintained, and (2) the process for developing Reactivity Control Plans is not efficient for late changes in scope.

Corrective Action References: 1699093

Performance Assessment:

Performance Deficiency: Licensee staff failure to recognize the impact on reactivity of changing plant conditions. Specifically, during removal of feedwater heaters from service during reduced feedwater temperature, reduced thermal power and core flow conditions, the

MELLLA+ Load Line Limit of 100.7 percent was exceeded while feedwater temperature was more than 10 degrees F reduced from design feedwater temperature.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Procedure Quality 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. The cornerstone was potentially impacted when the extraction steam was isolated to the feedwater heaters resulting in lower feedwater temperature which can lower stability margins during the Anticipated Transients Without Scram Instability (ATWSI) by significantly increasing core inlet subcooling. Because no ATWSI occurred, Oscillating Power Range Monitors (OPRMs) remained operable and thermal limits were not challenged, protection against severe thermal hydraulic instabilities was maintained. The magnitude and extent of the lowered stability margin is not known because the MELLLA+ region is not analyzed for the Feedwater Heater Out of Service Event with feedwater temperature reduction more than 10 degrees F from design feedwater temperature. Specifically, the inadequate procedures resulted in conditions that led to operation of the facility in a prohibited area of the power to flow map.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors assessed the significance of the finding using Inspection Manual Chapter (IMC) 609, Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 3, Barrier Integrity Screening Questions," the issue screened as having very low safety significance (Green) because all four questions were answered in the negative.

Cross-Cutting Aspect: H.1 - Resources: Leaders ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety.

Enforcement:

Violation: Technical Specification 5.4.1.a requires that written procedures shall be established, implemented and maintained covering the following activities: (a) the applicable procedures recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A, February 1978. Paragraph 2.h of Appendix A of RG 1.33 requires, in part, that General Plant Operating Procedures, specifically those that cover Power Operation with less than Full Reactor Coolant Flow be covered by written procedures. Paragraph 4.o. covering Procedure for Startup, Operation, and Shutdown of Safety-Related BWR Systems requires, in part, that instructions for energizing, filling, venting, draining, startup, shutdown, and changing modes of operation should be prepared, as appropriate for the following systems: Feedwater System (feedwater pumps to reactor vessel). The licensee established 2-OI-6, Feedwater Heating and Miscellaneous Drains System, Rev. 107, and 0-TI-464, Reactivity Control Plan Development and Implementation, Rev. 31, as controlling procedures for lowering and maintaining reactor power and removing feedwater heaters from service to support planned activities on June 5, 2021 to meet the RG 1.33 requirement. Contrary to the above, on June 5, 2021, the licensee failed to provide adequate written procedures to control the facility while operating at reduced power and core flow and remove extraction steam from feedwater heaters such that margin to the MELLLA+ operating limit was maintained. Specifically, the RCP and Feedwater OI were not appropriate to the circumstances in that they did not provide adequate written guidance to ensure margin to the MELLLA+ limit of 100.7 percent load line was maintained during reduced feedwater temperature, reduced reactor power and reduced core flow conditions. This action violated operating license condition 2.C.(22).

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

Unit 2 Inoperable Technical Specifications Required Main Steam Isolation Valve

Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000260/2021003-03 Open/Closed	Not Applicable	71153

A self-revealed Severity Level IV NCV of Technical Specification (TS) Limiting Condition for Operation (LCO) 3.6.1.3, "Primary Containment Isolation Valves (PCIV)" was identified when operators attempted to close the C Inboard Main Steam Isolation Valve (MSIV) in accordance with station operating procedures and the MSIV unexpectedly re-opened after closure without additional operator action.

Description: The Browns Ferry Unit 2 TS LCO 3.6.1.3 requires that each PCIV, including MSIVs, shall be operable while in Modes 1, 2 and 3 when the associated instrumentation is required to be operable per LCO 3.3.6.1, "Primary Containment Isolation Instrumentation". On April 22, 2021, a -150 Vdc ground was identified by an auxiliary unit operator on safety related main bank battery 3 during operator rounds. The licensee initiated troubleshooting activities to identify the source of the ground in accordance with station procedures, and on April 27, 2021, the licensee determined that the ground was on C Inboard MSIV. Further troubleshooting indicated that the ground was associated with the DC solenoid valve. The MSIVs are designed with two solenoid valves, one DC valve and one AC valve, when energized maintain the MSIV open during normal operation. When the solenoid valves are de-energized this results in closing of the associated MSIV for its required PCIS function. On June 5, 2021, licensee staff were preparing to implement a temporary modification for the degraded DC solenoid valve as a compensatory action, and the MSIV was to be closed to support implementation. When operators attempted to close the MSIV in accordance with station operating procedures the valve unexpectedly re-opened without additional operator action in the main control room. Operators declared the C inboard MSIV inoperable for its PCIS function and took actions to restore operability. The C inboard MSIV was declared operable for its PCIS function on June 6, 2021 following the implementation of a temporary modification to maintain the DC solenoid de-energized. Additionally, the licensee conducted a risk evaluation to determine the safety significance of the inoperability of the C inboard MSIV and determined it to be of very low safety significance due to the operability and availability of the redundant C outboard MSIV.

Corrective Actions: Following the automatic re-opening of the C inboard MSIV on June 5, 2021, the licensee initiated further troubleshooting to determine the cause and correct the issue in order to restore the PCIS function of the valve and compliance with technical specifications. Licensee staff implemented a temporary modification that de-energized the DC solenoid such that the MSIV would close on demand and meet its safety function. The temporary modification will mitigate adverse effects until the condition is corrected during the next refueling outage for the unit. The licensee is also taking actions to improve their troubleshooting of grounds on a DC distribution system.

Corrective Action References: 1689113, 1699014, 1699015, Temporary Modification TMOD BFN-2-2021-001-002

Performance Assessment: The NRC determined this violation was not reasonably foreseeable and preventable by the licensee and therefore is not a performance deficiency.

Enforcement: This violation is characterized as a Severity Level IV NCV based on its similarity to SLIV example 6.1.d.1 in the Enforcement Policy.

Severity: The inspectors reviewed NRC Enforcement Policy, Section 2.2.1, "Factors Affecting Assessment of Violations", which states, in part, that in determining the appropriate enforcement response to a violation, the NRC considers, whenever possible, risk information in assessing the safety or security significance of violations and assigning severity levels. The inspectors determined the issue to be of very low safety significance because the C Outboard MSIV remained operable and available for the time period where C Inboard MSIV was considered inoperable.

Violation: Browns Ferry Nuclear Plant, Unit 2 TS Subsection 3.6.1.3, "Primary Containment Isolation Valves", Condition A, requires, in part, that with one or more penetration flow paths with one PCIV inoperable, operators must isolate the affected flow path by use of at least one closed and de-activated valve in eight hours for the main steam line and verify the affected flow path is isolated once per 31 days. TS Subsection 3.6.1.3, Condition E, requires entering Mode 3 within 12 hours, and entering Mode 4 within 36 hours if the required action and completion time of Condition A cannot be met in Mode 1, 2, or 3. Contrary to the above, C inboard MSIV was inoperable from April 22, 2021 to June 5, 2021 and the unit did not isolate the affected flow path within 8 hours for MSIVs, and the unit did not enter Mode 3 or Mode 4 within 12 hours and 36 hours, respectively.

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

Licensee-Identified Non-Cited Violation

71153

This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Violation: 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be accomplished in accordance with instructions, procedures, or drawings. MMDP-1, "Maintenance Management System," Revision 41, an Appendix B quality related procedure, establishes the process for execution, testing, cancellation and close-out of work orders (WOs) which implement corrective maintenance, preventive maintenance, minor work, other maintenance and modifications. Procedure MMDP-1, Step 3.7.4.A.2 states, configuration control is maintained and documented. Contrary to the above, on August 24, 2021, the licensee failed to restore C2 Residual heat removal service water (RHRSW) motor to its original configuration following maintenance in accordance with procedure MMDP-1. Specifically, the licensee discarded the original MMDP-1 configuration control log (CCL) that was used to lift the leads for the C2 RHRSW pump motor the previous day due to the belief that it was documented incorrectly. A new MMDP-1 CCL was created which invalidated the original CCL. When the leads were re-landed using the incorrect, new CCL the leads were rolled and the pump motor failed beyond the point of repair.

Significance/Severity: Green. The inspectors determined that this finding was of very low safety significance (Green) because the pump did not exceed its allowed outage time, and

the redundant RHRSW pumps (7) remained operable and were unaffected by this occurrence.

Corrective Action References: Condition Reports 1716888, 1716927

EXIT MEETINGS AND DEBRIEFS

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

- On October 27, 2021, the inspectors presented the integrated inspection results to Mr. Daniel Komm and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Corrective Action Documents	CR 1704835, 1704975, 1704743, 1704741, 1704740, 1704734		
	Miscellaneous		BFN Hot Weather Open WO's	07/01/2021
	Procedures	0-GOI-200-3	Hot Weather Operations	Rev 15
		NPG-SPP-07.1.6	On Line Work Control Power System Alerts/Offsite Power	Rev 8
		NPG-SPP-07.1.7	Station Seasonal Readiness	Rev 9
NPG-SPP-07.1.8	Severe Weather and Natural Disasters	Rev 1		
71111.04	Calculations	NDN-0-063-2007-0029	BFNP PRA- SLC System	Rev 0
	Corrective Action Documents	CR 1291701, 1621855, 1705188, 1705215		
	Drawings	0-47E865-11	Flow Diagram Heating and Ventilating Standby Gas Treatment System	Rev 32
		0-47W462-2	Mechanical Standby Liquid Control System	Rev 0
		0-47W462-51	Mechanical Standby Liquid Control System	Rev 1
		1-47E814-1	Flow Diagram Core Spray System	Rev 24
		3-47E854-1	Flow Diagram Standby Liquid Control System	Rev 14
		47W462-4	Mechanical Standby Liquid Control System Isometric	Rev 2
	Miscellaneous	BFN-50-7063	Standby Liquid Control System Design Criteria Document	Rev 20
		BFN-VTD-C515-0020	Instruction Manual for Conax Corp Valve 1832-117-01, 1832-117-02	Rev 3
		BFN-VTD-C515-0030	Installation and Maintenance Manual Valve P/N 7048-1700-01 and Replacement Kits	Rev 2
		BFN-VTD-G080-3460	General Electric Instruction for Concentric Shaft Double, and Triple Reduction Helical Gear-Motor Line	Rev 1
		BFN-VTD-G250-0020	Greer Hydraulics Bladder Accumulator Maintenance Manual	Rev 0
BFN-VTD-R233-0050		Thomas Installation Instructions Type DBZ, DBZA, DBZB Couplings	Rev 2	
BFN-VTD-U055-0020		Instruction Manual For Installation and Operating TD-	Rev 4	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			60 Power Pump	
		Section 5.3.3.7 Standby Gas Treatment System	Updated Final Safety Analysis Report	Rev 28
	Procedures	0-OI-65	Standby Gas Treatment System Operating Instruction	Rev 55
		0-OI-65/Attachment 1	Valve Lineup Checklist	Rev 53
		0-OI-65/Attachment 2	Panel Lineup Checklist	Rev 54
		1-OI-75/ATT-1	Attachment 1 Core Spray System Valve Lineup Checklist	Rev 21
		1-OI-75/ATT-3	Attachment 3 Core Spray System Electrical Lineup Checklist	Rev 22
		2-SR-3.8.4.4(MB-2)	Main Bank 2 Battery Modified Performance Test	Rev 34
		3-OI-63	Standby Liquid Control System	Rev 24
		3-OI-63/ATT-1	Valve Lineup Checklist	Rev 25
		3-OI-63/ATT-2	Panel Lineup Checklist	Rev 22
		3-OI-63/ATT-3	Electrical Lineup Checklist	Rev 22
	3-OI-63/ATT-4	Instrument Inspection Checklist	Rev 23	
Work Orders	WO 116323016			
71111.05	Calculations	NDN0009992012000012	TVA Fire PRA - Task 7.14: Fire Risk Qualifications	Rev 5
	Fire Plans	FPR-Volume 2	Fire Protection Report Volume 2	Rev 68
	Miscellaneous	NFPA 805 Fire Protection Report	Appendix F, Fire Area 03-03	Rev 3
		NFPA 805 Fire Protection Report	Appendix F, Fire Area 01-04	Rev 4
71111.06	Calculations	NDN-000-999-2007-0031	BFN Probabilistic Risk Assessment - Internal Flooding Analysis	Rev 2
	Drawings	1-47E852-1-BD	Piping Analysis Problem Boundaries Floor and Dirty Radwaste Drainage	Rev 0
		1-47E852-2	Flow Diagram Clean Radwaste and Decontamination Drainage	Rev 28
	Miscellaneous	BFN-50-C-7105	Pipe Rupture, Internal Missiles, Internal Flooding, and Vibration Qualification of Piping	Rev 12
71111.11Q	Miscellaneous	U1 RCP 210827-000	Reactivity Maneuver Plan for Sequence Exchange, CRD Recovery, MSIV and TCV Testing	08/27/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Procedures	1-EOI-1	RPV Control Modes 1-3	Rev 7
		1-GOI-100-12	Power Maneuvering	Rev 19
		1-OI-68	Reactor Recirculation System	Rev 43
		NPG-SPP-17.8.4	Conduct of Simulator Operations	Rev 8
71111.12	Corrective Action Documents	CR 1710238, 1675384, 1658909, 1649629, 1641505, 1422121		
	Miscellaneous		U1, 2 & 3 Function/System 084-B (a)(1) Plan	Rev 0
			Function 084-B, Containment Air Dilution, (a)(1) Evaluation	
			U1/2/3 CR 105/109 Contactors (a)(1) Plan	Rev 0
			Function 075-B, Core Spray, (a)(1) Evaluation	
			Maintenance Rule Expert Panel Meeting Minutes	03/23/2021
			CR 105 Contactor Failures	Rev 0
			Maintenance Rule Expert Panel Meeting Minutes	05/19/2021
		Plant Health Subcommittee	08/09/2016	
	Procedures	0-TI-346	Maintenance Rule Performance Indicator Monitoring, Trending, and Reporting - 10CFR50.65	Rev 54
Work Orders	WO 121720839, 121726191, 121726202, 121726204, 121726205, 121726206, 121731552, 121989681			
71111.13	Corrective Action Documents	CR 1724093, 1724421		
	Drawings	1-45E712-2	Wiring Diagram 250V DC Reactor MOV BD 1B Single Line	Rev 43
	Engineering Changes	DCN 70747	GE AK Low Voltage Circuit Breaker Replacement	Rev A
	Procedures	0-OI-57D	DC Electrical System	Rev 180
		0-OI-57D/ATT-3A	Attachment 3A Electrical Lineup Checklist Unit 1	Rev 123
		0-SR-3.8.6.2(II-D)	Quarterly Check of Shutdown Board D Battery	Rev 9
		BFN-ODM-4.18	Protected Equipment	Rev 30
	MSI-0-000-LFT001	Lifting Instructions for the Control of Heavy Loads	Rev 78	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		NPG-SPP-07.1.6	On Line Work Control Power System Alerts, Offsite Power	Rev 8
		NPG-SPP-07.3	Work Activity Risk Management Process	Rev 34
		NPG-SPP-07.3.4	Protected Equipment	Rev 8
		TRANS-TSO-SPP-30.057	System Alerts and Advisories	Rev 0
		TRANS-TSO-SPP-30.310	Operating Reserves	Rev 4
	Work Orders	WO 116496392, 122104970 WO 122104970		
				09/07/2021
71111.15	Calculations	0-SIMI-27B	Condenser Circulating Water System Scaling and Setpoint Documents	Rev 26
	Corrective Action Documents	CR 1705059, 1705200, 1706925, 1706547, 1345898, 1715951, 1712449, 1712986		
		CR 1709055	RM-090-265 and RM-090-266 power supply capacitors failing	07/21/2021
		CR 1714276	3C EDG failed to shutdown	08/14/2021
	Drawings	0-47E931-12	Mechanical Heating, Ventilating and Air Conditioning Controls	Rev 5
		0-731E761-10	Elementary Diagram Emergency Equipment	Rev 24
	Engineering Changes	BFN-18-033	Change actuator gear ratio on 1,2, and 3 FCV-74-52 and 74-66 to increase torque and thrust capability	12/03/2018
		BFN-19-346-69	Rewire Core Spray Pump 1C Breaker Critical STA Functions from the STA Switch to Breaker Auxiliary Contacts	Rev1
		BFN-20-1877	IPS Trash Racks and Monorail Trash Rake Installation	Rev 1
		BFN-20-1877-11	Monorail Trash Rake Installation- LT Supports	Rev 0
		BFN-20-1877-11_ETP	Turnover package for ECP BFN-20-1877-11	08/26/2021
BFN-20-1877-11_IMPACTS		Final Impact Review of BFN-20-1877-11	05/04/2021	
BFN-20-1877-11_WCS	Work Completion Statement for BFN-20-1877-11	05/14/2021		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Engineering Evaluations		Evaluation of 3C Core Spray Pump for CR 1712449	
		21-IST-074-783		08/05/2021
	Miscellaneous		Unit 2 Core Performance Logs	06/05/2021
		0-ODCM-001	Offsite Dose Calculation Manual	Rev 25
		0-SIMI-27A	Condenser Circulating Water System Index	Rev 4
		DPR-52	Unit 2 Renewed Operating License	333
		TVA-COLR-BF2C22	Unit 2 Core Operating Limits Report	02/11/2021
		White Paper for CR 1699093		06/17/2021
		Operability Evaluations	0-TI-248	Station Reactor Engineer
	0-TI-403		Common Cause Failure Evaluation for Emergency Diesel Generators	Rev 2
	CR 1699093		Operating in the MELLLA+ region of the Unit 2 Power to Flow Map with reduced feedwater temperature	07/05/2021
	Procedures	0-SR-3.7.3.1	Control Room Emergency Ventilation System Operability Test	Rev 18
		0-TI-362	Inservice Testing Program	Rev 59
		1-SR-3.6.1.3.5(RHR I)	RHR System MOV Operability Loop I	Rev 22
		2-ARP-0-20B	2-XA-55-20B Alarm Response Procedure	Rev 29
		2-GOI-100-12	Power Maneuvering	Rev 49
		3-SI-4.2.K-6A2	Off Gas Post Treatment Radiation Monitor 3-RM-90-265 Calibration	Rev 35
		3-SI-4.8.B.1.A.3	Off Gas Post Treatment Release Rate by Manual Sampling	Rev 13
		3-SR-3.5.1.6(CS I)	Core Spray Flow Rate Loop I	Rev 38
		LCI-0-L-27-121	Warm Water Channel to Forebay Differential Level Calibration	Rev 27
		LCI-0-L-27-122	Warm Water Channel to Forebay Differential Level Calibration	Rev 31
		NPG-SPP-07.6	NPG Work Management Planning Procedure	Rev 20
		NPG-SPP-09.3	Plant Modifications and Engineering Change Controls	Rev 36
	NPP-SPP-01.16	Condition Report Initiation	Rev 6	
	Work Orders	WO 122239571,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		121597586		
71111.19	Corrective Action Documents	CR 1707146, 1707242		
		CR 1714250	2-FCV-69-17 failed to open	08/14/2021
	Procedures	0-SI-4.5.C.1(C2-COMP)	RHRWSW Pump C2 IST Comprehensive Pump Test	Rev 9
		0-SR-3.6.4.3.2(VFTP B)	SGT Filter Pressure Drop & In Place Leak Tests - Train B	Rev 19
		0-TI-345(RHRWSW)	RHRWSW Pump Curve Data Acquisition	Rev 6
		2-SI-3.3.1.A	ASME Section XI System Leakage Test of the Reactor Pressure Vessel and Associated Piping	Rev 44
		2-SR-3.3.3.1.4(B)	Verification of Remote Position Indicators for Main Steam Bypass Valves	Rev 6
		2-SR-3.3.3.2.1(69)	Backup Control Panel Testing	Rev 5
		2-SR-3.7.5.1(Q)	Main Turbine Bypass Valve Stroke Time Test	Rev 5
	Work Orders	WO 121379830, 121495894, 119240520, 121791109B, 122335772, 122360618, 122360572, 122385059		
WO 121619276, 12119274, 121287453, 121965786		Main Turbine Bypass Valve No. 1 repair and post maintenance test work orders	07/04/2021	
71111.22	Corrective Action Documents	CR 1719254	Unit 1 drywell unidentified leakage rising trend detected over the past 36 hours	09/08/2021
	Engineering Evaluations	21-0-IST-023-771	Evaluation Form for ASME OM Code IST Test Results - A3 EECW Pump	07/15/2021
		EWR21MEB071172	1-FCV-71-2 Backseating	09/08/2021
	Procedures	0-SI-4.5.C.1(A3)	RHRWSW Pump A3 IST Group A Quarterly Pump Test	Rev 20
		1-SR-3.3.8.2.1(B)	RPS Circuit Protector Calibration and Functional Test for 1B1 and 1B2	Rev 8
		1-TI-275E	Drywell Leak Investigation Analysis	Rev 5
		3-SR-3.3.8.2.1(B)	RPS Circuit Protector Calibration and Functional Test for 3B1 and 3B2	Rev 21
	Work Orders	WO 122387888		09/07/2021
71151	Calculations	1 AC PWR Aug 20 UAI	MSPI Derivation Report of the Unit 1 Emergency AC	09/23/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Power System UAI for August 2020	
		1 AC PWR AUg 20 URI	MSPI Derivation Report of the Unit 1 Emergency AC Power System URI for August 2020	09/23/2021
		1 AC PWR Jul 20 UAI	MSPI Derivation Report of the Unit 1 Emergency AC Power System UAI for July 2020	09/23/2021
		1 AC PWR Jul 20 URI	MSPI Derivation Report of the Unit 1 Emergency AC Power System URI for July 2020	09/23/2021
		2 AC PWR Oct 20 UAI	MSPI Derivation Report of the Unit 2 Emergency AC Power System UAI for October 2020	09/23/2021
		2 AC PWR OCT 20 URI	MSPI Derivation Report of the Unit 2 Emergency AC Power System URI for October 2020	09/23/2021
		2 AC PWR Sep 20 UAI	MSPI Derivation Report of the Unit 2 Emergency AC Power System UAI for September 2020	09/23/2021
		2 AC PWR Sep 20 URI	MSPI Derivation Report of the Unit 2 Emergency AC Power System URI for September 2020	09/23/2021
		3 AC PWR APR 21 UAI	MSPI Derivation Report of the Unit 3 Emergency AC Power System UAI for April 2021	09/23/2021
		3 AC PWR APR21 URI	MSPI Derivation Report of the Unit 3 Emergency AC Power System URI for April 2021	09/23/2021
		3 AC PWR Mar21 UAI	MSPI Derivation Report of the Unit 3 Emergency AC Power System UAI for March 2021	09/23/2021
		3 AC PWR MAR21 URI	MSPI Derivation Report of the Unit 3 Emergency AC Power System URI for March 2021	09/23/2021
			Miscellaneous	NEI 99-02
Procedures	NPG-SPP-02.2		Performance Indicator Program	Rev 18
71152	Corrective Action Documents	CR 1643732, 1663804, 1667503, 1675334, 1709478, 1712609		
	Procedures	0-ODCM-001	Offsite Dose Calculation Manual	Rev 25
		0-SI-4.8.B.1.a.2	Airborne Effluent Release Rate by Manual Sampling When a Gaseous Effluent Monitor is Inoperable	Rev 39
71153	Drawings	2-45E2631-4	Wiring Diagram 120V AC/250 V DC Valves and Misc. Connection Diagram	Rev 7

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Operability Evaluations	PDO for CR 1699014	Prompt Determination of Operability Documentation for CR 1699014	
		POE for CR 1699014	Past Operability Evaluation Documentation for CR 1699014	
	Procedures	0-GOI-300-2	Electrical	Rev 181
		2-SR-3.3.6.1.2(ATU C)	Reactor Protection and Primary Containment Isolation Systems Analog Trip Unit Channel A2 Functional Test	Rev 24
		2-SR-3.3.1.1.8(5)	MSIV Closure - RPS Trip Channel Functional Test	Rev 20
		2-SR-5.5.6(MSIV)	Main Steam Isolation Valve Stroke Time Test	Rev 4
		MCI-0-001-PNL001	Main Steam Isolation Valve Cylinder and Air Control Panel Disassembly, Inspection, Rework and Reassembly	Rev 44
		MMDP-1	Maintenance Management System	Rev 41
		MMDP-15	Conduct of Maintenance - Expectations and Standards	Rev 21
		NPG-SPP-22.206	Verification Program	Rev 7
	Work Orders	WO 121559475		