



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

February 9, 2023

Jamie Coleman
Regulatory Affairs Director
Southern Nuclear Company
7825 River Road, BIN 63031
Waynesboro, GA 30830

**SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNIT 4 – NRC INITIAL TEST
PROGRAM AND OPERATIONAL PROGRAMS INTEGRATED INSPECTION
REPORT 05200026/2022008**

Dear Ms. Coleman:

On December 31, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Vogtle Electric Generating Plant, Unit 4. The enclosed inspection report documents the inspection results, which the inspectors discussed on January 25, 2023, with Mr. Glen Chick, Vogtle Electric Generating Plant, Units 3 & 4 Executive Vice President, and other members of your staff.

The inspection examined a sample of construction activities conducted under your Combined License (COL) as it relates to safety and compliance with the Commission's rules and regulations and with the conditions of these documents. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any), will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact us.

Sincerely,

 Signed by Davis, Bradley
on 02/09/23

Bradley J. Davis, Chief
Construction Inspection Branch 2
Division of Construction Oversight

Docket Nos.: 5200026

License Nos: NPF-92

Enclosure: NRC Inspection Report (IR) 05200026/2022008
w/attachment: Supplemental Information
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SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNIT 4 – NRC INITIAL TEST PROGRAM AND OPERATIONAL PROGRAMS INTEGRATED INSPECTION REPORT 05200026/2022008 – DATED FEBRUARY 9, 2023

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OFFICE	RII/DCO/CIB2	RII/DCO/CIB2	RII/DCO/CIB2	RII/DCO/CIB2	
NAME	J. Parent	J. Eargle	C. Even	B. Davis	
DATE	2/6/2023	2/6/2023	2/2/2023	2/9/2023	

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**U.S. NUCLEAR REGULATORY COMMISSION
Region II**

Docket Numbers: 5200026

License Numbers: NPF-92

Report Numbers: 05200026/2022008

Licensee: Southern Nuclear Operating Company, Inc

Facility: Vogtle Unit 4 Combined License

Location: Waynesboro, GA

Inspection Dates: October 1, 2022, through December 31, 2022

Inspectors: J. Eargle, Sr. Resident Inspector – Testing, Division of
Construction Oversight (DCO)
C. Even, Sr. Construction Inspector, DCO
B. Griman, Construction Inspector, DCO
R. Mathis, Test Inspector, DCO
J. Parent, Resident Inspector, DCO
R. Patel, Vendor Inspector, DCIP
M. Riley, Senior Construction Inspector, DCO

Approved by: Bradley J. Davis, Chief
Construction Inspection Branch 2
Division of Construction Oversight

Enclosure

SUMMARY OF FINDINGS

Inspection Report (IR) 05200026/2022008; October 1, 2022, through December 31, 2022; Vogtle Unit 4 Combined License, initial test program and operational programs integrated inspection report.

This report covers a three-month period of announced Inspections, Tests, Analysis, and Acceptance Criteria (ITAAC), preoperational testing, and operational program inspections by resident and regional inspectors. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter (IMC) 2519, "Construction Significance Determination Process." Cross Cutting Aspects are determined using IMC 0613, Appendix F, "Construction Cross-Cutting Areas and Aspects." All violations of NRC requirements are dispositioned in accordance with NRC's Enforcement Policy and the temporary enforcement guidance outlined in enforcement guidance memorandum number EGM-11 006. The NRC's program for overseeing the construction of commercial nuclear power reactors is described in IMC 2506, "Construction Reactor Oversight Process General Guidance and Basis Document."

A. NRC-Identified and Self Revealed Findings

None

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Construction Status

During this report period for Unit 4, component and preoperational testing was performed for systems needed to support hot functional testing. Piping flow resistance of the passive core cooling system (PXS) was measured and compared to design assumptions. Numerous component tests were performed on the protection and safety monitoring system (PMS), reactor coolant system (RCS), Class 1E direct current and uninterruptable power supply system, and PXS which included instrument calibrations, interface testing, and valve operation/timing.

1. CONSTRUCTION REACTOR SAFETY

**Cornerstones: Design/Engineering, Procurement/Fabrication,
Construction/Installation, Inspection/Testing**

IMC 2503, Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) - Related Work Inspections

1A01 (Unit 4) ITAAC Number 2.1.02.11a.ii (47) / Family 10C

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.1.02.11a.ii (47). The inspectors used the following NRC inspection procedure (IP)/section to perform this inspection:

- 65001.C-02.02 - Construction Test Observation

The inspectors used the appropriate portions of the IP to observe the licensee's performance of the following procedure to verify if the reactor vessel head vent valve performed its active function after receiving a signal from PMS. The test was observed to verify if the test satisfied the applicable quality and technical requirements of the Updated Final Safety Analysis Report (UFSAR) and the ITAAC.

- B-GEN-ITPCI-039-F410, Component Test SV4-RCS-PL-V150B, Version (Ver.) 1.0

b. Findings

No findings were identified.

IMC 2504, Construction Inspection Program – Inspection of Construction and Operational Programs

1P01 Pre-operational Testing

- 70702-02.04 - Test Witnessing

a. Inspection Scope

The inspectors used appropriate portions of the IP to observe the licensee's performance of the following procedure for performing PMS/plant control system interface testing of a reactor vessel head vent valve. The test was observed to verify if it satisfied the applicable quality and technical requirements of the UFSAR.

- B-GEN-ITPCI-039-F410, Component Test SV4-RCS-PL-V150B, Ver. 1.0

b. Findings

No findings were identified.

1P02 Pre-operational Testing

- 70702-02.04 - Test Witnessing

a. Inspection Scope

The inspectors used appropriate portions of the IP to observe the licensee's performance of the following procedure for performing the channel calibration for RCS pressure transmitter and temperature element. The test was observed to verify if they satisfied the applicable quality and technical requirements of the UFSAR.

- B-GEN-ITPCI-019-363, PMS Channel Calibration Test for 4-RCS-PT140A, Rev. 0
- B-GEN-ITPCI-019-407, PMS Channel Calibration Test for 4-RCS-TE211A, B, C, Rev. 1

b. Findings

No findings were identified.

1P03 Pre-operational Testing

- 70702-02.04 - Test Witnessing

a. Inspection Scope

The inspectors used appropriate portions of the IP to observe the licensee's performance of the following procedure used to perform the channel calibration of the reactor coolant pump speed sensor, 4-RCS-ST284. Specifically, the test was observed to verify if the test satisfied the applicable quality and technical requirements of the UFSAR.

- B-GEN-ITPCI-019-374, PMS-Channel Calibration Test For 4-RCS-ST284, Ver. 2

b. Findings

No findings were identified.

1P04 Pre-operational Testing

- 70702-02.04 - Test Witnessing

a. Inspection Scope

The inspectors used appropriate portions of the IP to observe the licensee's performance of the following procedure used to perform channel calibration of the RCS flow transmitter, 4-RCS-FT101B. The test was observed to verify if the test satisfied the applicable quality and technical requirements of the UFSAR.

- B-GEN-ITPCI-019-350, PMS Channel Calibration Test for 4-RCS-FT101B, Rev. 0

b. Findings

No findings were identified.

3. OPERATIONAL READINESS

Cornerstones: Inspection/Testing, Operational Programs

IMC 2503, Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) - Related Work Inspections

3T01 (Unit 4) ITAAC Number 2.1.02.08d.i (32) / Family 03D

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.1.02.08d.i (32). The inspectors used the following NRC IP/section to perform this inspection:

- 65001.D-02.02-Test Witnessing

The inspectors used the appropriate portions of the IP to observe the licensee's performance of the following procedure used to verify if the calculated automatic depressurization system (ADS) piping flow resistance from the pressurizer through the sparger with all valves of ADS Stages 1-3 open was less than or equal to $2.91E-6$ ft/gal/min². The test was observed to verify if the test satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC.

- 4-PXS-ITPP-503, TPC for Passive Core Cooling System Pre-Core flow Testing with RV Head Installed Preoperational Test Procedure, Rev. 0

b. Findings

No findings were identified.

3T02 (Unit 4) ITAAC Number 2.1.02.11a.ii (47) / Family 10C

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.1.02.11a.ii (47). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.D-02.02-Test Witnessing

The inspectors used the appropriate portions of the IP to observe the licensee's performance of the following procedure used to verify if remotely operated valves performed their active function after they received a signal from the PMS. The test was observed to verify if it satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC.

- B-GEN-ITPCI-039-F362, RCS-PL-V001B Component Test, Ver. 2
- B-GEN-ITPCI-039-F400, RCS-PL-V011B Component Test, Ver. 2
- B-GEN-ITPCI-039-F402, RCS-PL-V012B Component Test, Ver. 2
- B-GEN-ITPCI-039-F364, RCS-PL-V002B Component Test, Ver. 2
- B-GEN-ITPCI-039-F405, RCS-PL-V014A Component Test, Ver. 2

b. Findings

No findings were identified.

3T03 (Unit 4) ITAAC Number 2.1.02.13b (64) / Family 10D

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.1.02.13b (64). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.D-02.02-Test Witnessing

The inspectors used the appropriate portions of the IP to observe the licensee's performance of the following procedure used to verify if the reactor coolant pump switchgear breakers, ECS-ES-41 and -61, opened from a signal from the protection and safety monitoring system. Specifically, the test was observed to verify if the test satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC.

- B-GEN-ITPCI-039-F271, ECS-ES-41 Component Test, Rev. 0
- B-GEN-ITPCI-039-F275, ECS-ES-61 Component Test, Rev. 0

b. Findings

No findings were identified.

3T04 (Unit 4) ITAAC Number 2.2.03.08c.ii (181) / Family 06D

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.03.08c.ii (181). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.D-02.02-Test Witnessing

The inspectors used the appropriate portions of the IP to observe the licensee's performance of the following procedure used to verify if the piping flow resistance from the cold leg to core makeup tank A was less than or equal to $7.21E-6$ ft/gal². The test was observed to verify if it satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC.

- 4-PXS-ITPP-503, TPC for Passive Core Cooling System Pre-Core Flow Testing with RV head Installed Preoperational Test Procedure, Rev. 0

The inspectors used the appropriate portions of the IP to review the licensee's test results to verify if the flow resistance from the cold leg to core makeup tanks A and B was less than or equal to $7.21E-6$ ft/gal². The test package was reviewed to verify if the test results satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC.

- SV4-PXS-T2R-006, Vogtle Unit 4 4-PXS-ITPP-503 Section 4.4 and 4.5 CMT Cold Leg Balance Line Test Engineering Report, Rev. 0

b. Findings

No findings were identified.

3T05 (Unit 4) ITAAC Number 2.2.03.10 (206) / Family 10A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.03.10 (206). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.D-02.02-Test Witnessing

The inspectors used the appropriate portions of the IP to observe the licensee's performance of the following procedures used to verify if remotely operated valves performed their active function after receiving a signal from the PMS. The test was observed to verify if it satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC.

- B-GEN-ITPCI-039-F313, PXS-PL-V002A-1 Component Test, Rev. 1
- B-GEN-ITPCI-039-F314, PXS-PL-V002A-2 Component Test, Rev. 1
- B-GEN-ITPCI-039-F315, PXS-PL-V002B Component Test, Rev. 1

b. Findings

No findings were identified.

3T06 (Unit 4) ITAAC Number 2.2.03.12a.iv (216) / Family 07D

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.03.12a.iv (216). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.D-02.02-Test Witnessing

The inspectors used the appropriate portions of the IP to observe the licensee's performance of the following procedure used to verify if the check valves performed their active safety-related function to change position. The test was observed to verify if the test satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC.

- 4-PXS-ITPP-503, TPC for Passive Core Cooling System Precore Flow Testing with RV Head Installed Preoperational Test Procedure, Rev. 0

b. Findings

No findings were identified.

3T07 (Unit 4) ITAAC Number 2.5.02.06a.ii (530) / Family 10D

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.5.02.06a.ii (530). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.D-02.02-Test Witnessing

The inspectors used the appropriate portions of the IP to observe the licensee's performance of the following procedure used to verify if PMS output signals were generated for reactor trip and selected engineered safety features after the manual initiation controls were actuated. Specifically, the test was observed to verify if the test satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC.

- B-GEN-ITPCI-006, Main Control Room & Remote Shutdown Room, Rev. 3

b. Findings

No findings were identified.

4. OTHER INSPECTION RESULTS

4OA6 Meetings, Including Exit

.1 Exit Meeting.

On January 25, 2023, the inspectors presented the inspection results to Mr. Glen Chick, Vogtle Electric Generating Plant, Units 3 & 4 Executive Vice President, and other licensee and contractor staff members. Proprietary information was reviewed during the inspection period but was not included in the inspection report

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licenses and Contractor Personnel

S. Briggs, Testing and Turnover Director
A. Nix, ITP Director
E. Loehlein, Operations Director
J. Coleman, Regulatory Affairs Director
R. Nicoletto, NI Manager
S. Leighty, Regulatory Affairs Manager
W. Garrett, Licensing Manager
T. Takats, Electrical Manager
K. Roberts, ITAAC Manager
J. Olsen, NI Supervisor
D. Johnson, Maintenance Supervisor
G. Bauer, Electrical Supervisor

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Item Number</u>	<u>Type</u>	<u>Status</u>	<u>Description</u>
None			

LIST OF DOCUMENTS REVIEWED

Section 1A01
work order (WO) 1245189

Section 1P01
WO 1245189

Section 1P02
WO 1192358
WO 1261883
WO 1192497
WO 1261884

Section 1P03
WO 1192329

Section 3T01
WO 1191260

Section 3T02

WO 1244633

WO 1245027

WO 1245029

WO 1244647

WO 1245045

Section 3T03

WO 1289048

WO 1289052

Section 3T04

WO 1191260

Section 3T05

WO 1243304

WO 1285533

Section 3T06

WO 1191260

Section 3T07

WO 1168612

LIST OF ACRONYMS

ADS	automatic depressurization system
COL	Combined License
DCO	Division of Construction Oversight
ITAAC	Inspections, Tests, Analysis, and Acceptance Criteria
IMC	inspection manual chapter
IP	inspection procedure
IR	inspection report
NRC	U.S. Nuclear Regulatory Commission
PARS	publicly available records
PMS	protection and safety monitoring system
PXS	passive core cooling system
RCS	reactor coolant system
Rev.	revision
UFSAR	Updated Final Safety Analysis Report
Ver.	version
WO	work order

ITAAC INSPECTED

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
32	2.1.02.08d.i	8.d) The RCS provides automatic depressurization during design basis events.	i) A low pressure flow test and associated analysis will be conducted to determine the total piping flow resistance of each ADS valve group connected to the pressurizer (i.e., ADS Stages 1-3) from the pressurizer through the outlet of the downstream ADS control valves. The reactor coolant system will be at cold conditions with the pressurizer full of water. The normal residual heat removal pumps will be used to provide injection flow into the RCS discharging through the ADS valves. Inspections and associated analysis of the piping flow paths from the discharge of the ADS valve groups connected to the pressurizer (i.e., ADS Stages 1-3) to the spargers will be conducted to verify the line routings are consistent with the line routings used for design flow resistance calculations.	i) The calculated ADS piping flow resistance from the pressurizer through the sparger with all valves of each ADS group open is < 2.91E-6 ft/gpm ² .

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
47	2.1.02.11a.ii	<p>10. Safety-related displays identified in Table 2.1.2-1 can be retrieved in the MCR.</p> <p>11.a) Controls exist in the MCR to cause the remotely operated valves identified in Table 2.1.2-1 to perform active functions.</p> <p>11.b) The valves identified in Table 2.1.2-1 as having PMS control perform an active safety function after receiving a signal from the PMS.</p> <p>12.b) After loss of motive power, the remotely operated valves identified in Table 2.1.2-1 assume the indicated loss of motive power position.</p>	<p>Inspection will be performed for retrievability of the safety-related displays in the MCR.</p> <p>ii) Stroke testing will be performed on the other remotely operated valves listed in Table 2.1.2-1 using controls in the MCR.</p> <p>ii) Testing will be performed on the other remotely operated valves identified in Table 2.1.2-1 using real or simulated signals into the PMS.</p> <p>iii) Testing will be performed to demonstrate that remotely operated RCS valves RCS-V001A/B, V002A/B, V003A/B, V011A/B, V012A/B, V013A/B open within the required response times.</p> <p>Testing of the remotely operated valves will be performed under the conditions of loss of motive power.</p>	<p>Safety-related displays identified in Table 2.1.2-1 can be retrieved in the MCR.</p> <p>ii) Controls in the MCR operate to cause the remotely operated valves (other than squib valves) to perform active functions.</p> <p>ii) The other remotely operated valves identified in Table 2.1.2-1 as having PMS control perform the active function identified in the table after receiving a signal from PMS.</p> <p>iii) These valves open within the following times after receipt of an actuation signal: V001A/B < 40 sec V002A/B, V003A/B < 100 sec V011A/B < 30 sec V012A/B, V013A/B < 60 sec</p> <p>Upon loss of motive power, each remotely operated valve identified in Table 2.1.2-1 assumes the indicated loss of motive power position.</p>
64	2.1.02.13b	<p>13.b) The RCPs trip after receiving a signal from the PMS.</p>	<p>Testing will be performed using real or simulated signals into the PMS.</p>	<p>The RCPs trip after receiving a signal from the PMS.</p>

181	2.2.03.08c.ii	8.c) The PXS provides RCS makeup, boration, and safety injection during design basis events.	ii) A low-pressure test and analysis will be conducted for each CMT to determine piping flow resistance from the cold leg to the CMT. The test will be performed by filling the CMT via the cold leg balance line by operating the normal residual heat removal pumps.	ii) The flow resistance from the cold leg to the CMT is $\leq 7.21 \times 10^{-6}$ ft/gpm ² .
206	2.2.03.10	10. Safety-related displays of the parameters identified in Table 2.2.3-1 can be retrieved in the MCR. 11.a) Controls exist in the MCR to cause the remotely operated valves identified in Table 2.2.3-1 to perform their active function(s). 11.b) The valves identified in Table 2.2.3-1 as having PMS control perform their active function after receiving a signal from the PMS. 12.b) After loss of motive power, the remotely operated valves identified in Table 2.2.3-1 assume the indicated loss of motive power position. 13. Displays of the parameters identified in Table 2.2.3-3 can be retrieved in the MCR.	Inspection will be performed for the retrievability of the safety-related displays in the MCR. ii) Stroke testing will be performed on remotely operated valves other than squib valves identified in Table 2.2.3-1 using the controls in the MCR. ii) Testing will be performed on the remotely operated valves other than squib valves identified in Table 2.2.3-1 using real or simulated signals into the PMS. iii) Testing will be performed to demonstrate that remotely operated PXS isolation valves PXS-V014A/B, V015A/B, V108A/B open within the required response times. Testing of the remotely operated valves will be performed under the conditions of loss of motive power. Inspection will be performed for retrievability of the displays identified in Table 2.2.3-3 in the MCR.	Safety-related displays identified in Table 2.2.3-1 can be retrieved in the MCR. ii) Controls in the MCR operate to cause remotely operated valves other than squib valves to perform their active functions. ii) Remotely operated valves other than squib valves perform the active function identified in the table after a signal is input to the PMS. iii) These valves open within 20 seconds after receipt of an actuation signal. After loss of motive power, each remotely operated valve identified in Table 2.2.3-1 assumes the indicated loss of motive power position. Displays identified in Table 2.2.3-3 can be retrieved in the MCR.

216	2.2.03.12a.iv	12.a) The squib valves and check valves identified in Table 2.2.3-1 perform an active safety-related function to change position as indicated in the table.	iv) Exercise testing of the check valves with active safety functions identified in Table 2.2.3-1 will be performed under preoperational test pressure, temperature, and fluid flow conditions.	iv) Each check valve changes position as indicated in Table 2.2.3-1
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530	2.5.02.06a.ii	<p>6.a) The PMS initiates an automatic reactor trip, as identified in Table 2.5.2-2, when plant process signals reach specified limits.</p> <p>6.b) The PMS initiates automatic actuation of engineered safety features, as identified in Table 2.5.2-3, when plant process signals reach specified limits.</p> <p>6.c) The PMS provides manual initiation of reactor trip and selected engineered safety features as identified in Table 2.5.2-4.</p> <p>8.a) The PMS provides for the minimum inventory of displays, visual alerts, and fixed position controls, as identified in Table 2.5.2-5. The plant parameters listed with a "Yes" in the "Display" column and visual alerts listed with a "Yes" in the "Alert" column can be retrieved in the MCR. The fixed position controls listed with a "Yes" in the "Control" column are provided in the MCR.</p> <p>8.c) Displays of the open/closed status of the reactor trip breakers can be retrieved in the MCR.</p> <p>9.a) The PMS automatically removes blocks of reactor trip and engineered safety features actuation when the plant approaches conditions</p>	<p>An operational test of the as-built PMS will be performed using real or simulated test signals. An operational test of the as-built PMS will be performed using real or simulated test signals. An operational test of the as-built PMS will be performed using the PMS manual actuation controls.</p> <p>i) An inspection will be performed for retrievability of plant parameters in the MCR.</p> <p>iii) An operational test of the as-built system will be performed using each MCR fixed position control. Inspection will be performed for retrievability of displays of the open/closed status of the reactor trip breakers in the MCR.</p> <p>An operational test of the as-built PMS will be performed using real or simulated test signals. An operational test of the as-built PMS will be performed. An operational test of the as-built PMS will be performed. With one channel in bypass, an attempt will be made to place a redundant channel in bypass.</p>	<p>ii) PMS output signals to the reactor trip switchgear are generated after the test signal reaches the specified limit. This needs to be verified for each automatic reactor trip function. Appropriate PMS output signals are generated after the test signal reaches the specified limit. These output signals remain following removal of the test signal. Tests from the actuation signal to the actuated device(s) are performed as part of the system-related inspection, test, analysis, and acceptance criteria.</p> <p>ii) PMS output signals are generated for reactor trip and selected engineered safety features as identified in Table 2.5.2-4 after the manual initiation controls are actuated.</p> <p>i) The plant parameters listed in Table 2.5.2-5 with a "Yes" in the "Display" column, can be retrieved in the MCR.</p> <p>iii) For each test of an as-built fixed position control listed in Table 2.5.2-5 with a "Yes" in the "Control" column, an actuation signal is generated. Tests from the actuation signal to the actuated device(s) are performed as part of the system-related</p>
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		<p>for which the associated function is designed to provide protection. These blocks are identified in Table 2.5.2-6. 9.b) The PMS two-out-of-four initiation logic reverts to a two-out-of-three coincidence logic if one of the four channels is bypassed. All bypassed channels are alarmed in the MCR. 9.c) The PMS does not allow simultaneous bypass of two redundant channels.</p>	<p>inspection, test, analysis and acceptance criteria. Displays of the open/closed status of the reactor trip breakers can be retrieved in the MCR. The PMS blocks are automatically removed when the test signal reaches the specified limit. The PMS two-out-of-four initiation logic reverts to a two-out-of-three coincidence logic if one of the four channels is bypassed. All bypassed channels are alarmed in the MCR. The redundant channel cannot be placed in bypass.</p>
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