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ND-19-0967
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U.S. Nuclear Regulatory Commission
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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 3 and Unit 4
Notice of Uncompleted ITAAC 225-days Prior to Initial Fuel Load
Item 2.3.02.08a.i [Index Number 301]

Ladies and Gentlemen:

Pursuant to 10 CFR 52.99(c)(3), Southern Nuclear Operating Company hereby notifies the NRC that as of August 5, 2019, Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4 Uncompleted Inspections Tests Analyses and Acceptance Criteria (ITAAC) Item 2.3.02.08a.i [Index Number 301] has not been completed greater than 225-days prior to initial fuel load. The Enclosure describes the plan for completing ITAAC 2.3.02.08a.i [Index Number 301]. Southern Nuclear Operating Company will, at a later date, provide additional notifications for ITAAC that have not been completed 225-days prior to initial fuel load.

Southern Nuclear Operating Company (SNC) previously submitted Notice of Uncompleted ITAAC 225-days Prior to Initial Fuel Load for Item 2.3.02.08a.i [Index Number 301] ND-19-0077 [ML19043A947], dated Feb. 11, 2019. This resubmittal supersedes ND-19-0077 in its entirety.

This notification is informed by the guidance described in NEI-08-01, *Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52*, which was endorsed by the NRC in Regulatory Guide 1.215. In accordance with NEI 08-01, this notification includes ITAAC for which required inspections, tests, or analyses have not been performed or have been only partially completed. All ITAAC will be fully completed and all Section 52.99(c)(1) ITAAC Closure Notifications will be submitted to NRC to support the Commission finding that all acceptance criteria are met prior to plant operation, as required by 10 CFR 52.103(g).

This letter contains no new NRC regulatory commitments.

If there are any questions, please contact Tom Petrak at 706-848-1575.

Respectfully submitted,

Michael J. Yox
Regulatory Affairs Director Vogtle 3 & 4

U.S. Nuclear Regulatory Commission
ND-19-0967
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Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4
Completion Plan for Uncompleted ITAAC 2.3.02.08a.i [Index Number 301]

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**Southern Nuclear Operating Company
ND-19-0967
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4
Completion Plan for Uncompleted ITAAC 2.3.02.08a.i [Index Number 301]**

ITAAC Statement

Design Commitment

- 8.a) The CVS provides makeup water to the RCS.
- 8.b) The CVS provides the pressurizer auxiliary spray.
- 9. Safety-related displays identified in Table 2.3.2-1 can be retrieved in the MCR.
- 10.a) Controls exist in the MCR to cause the remotely operated valves identified in Table 2.3.2-1 to perform active functions.
- 10.b) The valves identified in Table 2.3.2-1 as having PMS control perform an active safety function after receiving a signal from the PMS.
- 11.a) The motor-operated and check valves identified in Table 2.3.2-1 perform an active safety-related function to change position as indicated in the table.
- 11.b) After loss of motive power, the remotely operated valves identified in Table 2.3.2-1 assume the indicated loss of motive power position.
- 12.a) Controls exist in the MCR to cause the pumps identified in Table 2.3.2-3 to perform the listed function.
- 12.b) The pumps identified in Table 2.3.2-3 start after receiving a signal from the PLS.
- 13. Displays of the parameters identified in Table 2.3.2-3 can be retrieved in the MCR.

Inspections/Tests/Analyses

i) Testing will be performed by aligning a flow path from each CVS makeup pump, actuating makeup flow to the RCS at pressure greater than or equal to 2000 psia, and measuring the flow rate in the makeup pump discharge line with each pump suction aligned to the boric acid storage tank.

Testing will be performed by aligning a flow path from each CVS makeup pump to the pressurizer auxiliary spray and measuring the flow rate in the makeup pump discharge line with each pump suction aligned to the boric acid storage tank and with RCS pressure greater than or equal to 2000 psia.

Inspection will be performed for retrievability of the safety-related displays in the MCR.

Stroke testing will be performed on the remotely operated valves identified in Table 2.3.2-1 using the controls in the MCR.

i) Testing will be performed using real or simulated signals into the PMS.

ii) Testing will be performed to demonstrate that the remotely operated CVS isolation valves CVS-V090, V091, V136A/B close within the required response time.

iii) Tests of the motor-operated valves will be performed under pre-operational flow, differential pressure, and temperature conditions.

iv) Exercise testing of the check valves with active safety functions identified in Table 2.3.2-1 will be performed under pre-operational test pressure, temperature and fluid flow conditions.

Testing of the remotely operated valves will be performed under the conditions of loss of motive power.

Testing will be performed to actuate the pumps identified in Table 2.3.2-3 using controls in the MCR.

Testing will be performed to confirm starting of the pumps identified in Table 2.3.2-3.

Inspection will be performed for retrievability of the displays identified in Table 2.3.2-3 in the MCR.

Acceptance Criteria

i) Each CVS makeup pump provides a flow rate of greater than or equal to 100 gpm.

Each CVS makeup pump provides spray flow to the pressurizer.

Safety-related displays identified in Table 2.3.2-1 can be retrieved in the MCR.

Controls in the MCR operate to cause the remotely operated valves identified in Table 2.3.2-1 to perform active functions.

i) The valves identified in Table 2.3.2-1 as having PMS control perform the active function identified in the table after receiving a signal from the PMS.

ii) These valves close within the following times after receipt of an actuation signal:
V090, V091 < 30 sec, V136A/B < 20 sec.

iii) Each motor-operated valve changes position as indicated in Table 2.3.2-1 under pre-operational test conditions.

iv) Each check valve changes position as indicated in Table 2.3.2-1.

Upon loss of motive power, each remotely operated valve identified in Table 2.3.2-1 assumes the indicated loss of motive power position.

Controls in the MCR cause pumps identified in Table 2.3.2-3 to perform the listed function.

The pumps identified in Table 2.3.2-3 start after a signal is generated by the PLS.

Displays identified in Table 2.3.2-3 can be retrieved in the MCR.

ITAAC Completion Description

Multiple ITAAC are performed to verify by inspections and tests that each of the Chemical and Volume Control System (CVS) makeup pumps provide a flow rate of greater than or equal to 100 gpm to the Reactor Coolant System (RCS) and provides spray flow to the pressurizer. This ITAAC also ensures safety-related displays identified in Combined License (COL) Table 2.3.2-1 can be retrieved in the Main Control Room (MCR), displays identified in COL Table 2.3.2-3 can be retrieved in the MCR, controls in the MCR operate to cause the remotely operated valves identified in COL Table 2.3.2-1 to perform active functions, controls in the MCR cause pumps identified in COL Table 2.3.2-3 to perform the listed function, and the pumps identified in COL Table 2.3.2-3 start after a signal is generated by the Plant Control System (PLS). Additionally, this ITAAC verifies the valves identified in COL Table 2.3.2-1 as having Protection and Safety Monitoring System (PMS) control perform the active function identified in the table after receiving a signal from the PMS, valves close within the following times after receipt of an actuation signal: V090, V091 < 30 sec; V136A, V136B < 20 sec, each motor-operated valve and check valve change positions as indicated in COL Table 2.3.2-1 under preoperational test conditions. Upon loss of motive power, each remotely operated valve identified in COL Table 2.3.2-1 assumes the loss of motive power position.

i) Each CVS makeup pump provides a flow rate of greater than or equal to 100 gpm.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-CVS-ITPP-502 and 4-CVS-ITPP-502 (References 1 & 2) to confirm that with suction aligned to the boric acid storage tank, the Reactor Coolant System (RCS) at greater than or equal to 2000 psia and a flow path established to the RCS, that each CVS makeup pump provides greater than or equal to 100 gpm flow rate measured at the pump discharge.

With the RCS at 555°F - 559°F and 2220 psig – 2250 psig, the CVS system is aligned to perform a boron addition to the RCS. The A CVS makeup pump suction is aligned to the boric acid storage tank and a boron addition is initiated using the operating procedure. The flow rate on the discharge line of the CVS makeup pump is monitored and trended. This testing is repeated utilizing the B CVS makeup pump. The Unit 3 A CVS makeup pump flow rate is XXX gpm and the Unit 3 B CVS makeup pump flow rate is YYY gpm. The Unit 4 A CVS makeup pump flow is XXX gpm and the Unit 4 B CVS makeup pump flow rate is YYY gpm.

The completed test results (Reference 1 and 2) confirm that each CVS makeup pump provides a flow rate of greater than or equal to 100 gpm with the RCS at greater than or equal to 2000 psia.

Each CVS makeup pump provides spray flow to the pressurizer.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-CVS-ITPP-502 and 4-CVS-ITPP-502 (References 1 & 2) to confirm that with suction aligned to the boric acid storage tank, the Reactor Coolant System (RCS) at greater than or equal to 2000 psia and a flow path established to the pressurizer auxiliary spray, that each CVS makeup pump provides spray flow to the pressurizer.

With the RCS at 555°F - 559°F degrees and 2220 psig – 2250 psig, the CVS system is aligned to provide make-up to the RCS. The makeup flow control valve is placed in manual, suction is aligned to the boric acid storage tank, and the A CVS makeup pump is started. The auxiliary

spray valve is opened, and the makeup flow control valve is throttled open until flow is established. The discharge flow rate is monitored and trended. The B CVS makeup pump is started, and the A CVS makeup pump is stopped. The makeup flow control valve is throttled to provide flow at the pump discharge and the flow rate is monitored and trended. The Unit 3 A CVS makeup pump flow rate is XXX gpm and the Unit 3 B CVS makeup pump flow rate is YYY gpm. The Unit 4 A CVS makeup pump flow rate is XXX gpm and the Unit 4 B CVS makeup pump flow rate is YYY gpm.

The completed test results (Reference 1 and 2) confirm that each CVS makeup pump provides spray flow to the pressurizer with the RCS at greater than or equal to 2000 psia.

Safety-related displays identified in Table 2.3.2-1 can be retrieved in the MCR.

An inspection is performed in accordance with Unit 3 and Unit 4 component test work packages, SNC921145 and SNCYYYYYY (References 3 & 4) to ensure the safety-related displays identified in Combined License (COL) Table 2.3.2-1 (Attachment A) can be retrieved in the MCR.

The valves listed in Attachment A as having safety-related displays for valve position are located on the MCR PMS Visual Display Units (VDUs) and verified to indicate on each of the VDUs.

The completed test results (Reference 3 and 4) confirm that safety-related displays identified in Table 2.3.2-1 can be retrieved in Unit 3 and Unit 4 MCR.

Controls in the MCR operate to cause the remotely operated valves identified in Table 2.3.2-1 to perform active functions.

Stroke testing is performed in accordance with Unit 3 and Unit 4 component test work packages, SNC921145 and SNCYYYYYY (References 3 & 4) using controls in the MCR to confirm that the remotely operated valves identified in COL Table 2.3.2-1 (Attachment B) perform their active function.

The valves identified in Attachment B are stroke tested using an operator work station in the MCR. The valves are initially opened and are stroked closed using the Plant Control System (PLS) and verified locally to have gone closed.

The completed test results (Reference 3 and 4) confirm that controls in Unit 3 and Unit 4 MCR operate to cause the remotely operated valves identified in Table 2.3.2-1 to perform active functions.

i) The valves identified in Table 2.3.2-1 as having PMS control perform the active function identified in the table after receiving a signal from the PMS.

Testing is performed in accordance with Unit 3 and Unit 4 component test packages SNCXXXXXX and SNCYYYYYY (References 5 and 6). These component test packages utilize B-GEN-ITPCI-039 (Reference 7) to direct the performance of test procedures 3/4-GEN-OTS-10-001 (References 8 and 9), 3/4-GEN-OTS-10-003 (References 10 and 11), 3/4-GEN-OTS-10-004 (References 12 and 13), and 3/4-CVS-OTS-10-001 (References 14 and 15) to confirm that

the valves identified in Table 2.3.2-1 (Attachment C) as having PMS control perform the active function identified in the table after receiving a signal from the PMS.

References 8 through 15 establish initial conditions with each valve verified locally and in the MCR to be in the open position. An actuation signal is generated by PMS using the PMS Maintenance and Test Panel (MTP) to generate a signal to close the valves in Attachment C. Each valve is verified locally and in the MCR to be closed.

The completed test results (Reference 5 and 6) demonstrate that the valves identified in Table 2.3.2-1 as having PMS control perform the active function identified in the table after receiving a signal from the PMS.

ii) These valves close within the following times after receipt of an actuation signal:
V090, V091 < 30 sec, V136A/B < 20 sec.

Testing is performed in accordance with Unit 3 and Unit 4 component test packages SNCXXXXXX and SNCYYYYYY (References 5 and 6). These component test packages utilize B-GEN-ITPCI-039 (Reference 7) to direct the performance of test procedures 3/4-GEN-OTS-10-001 (References 8 and 9), 3/4-GEN-OTS-10-003 (References 10 and 11) and 3/4-GEN-OTS-10-004 (References 12 and 13) to confirm that the valves identified in Table 2.3.2-1 (Attachment D) close within the following times after receipt of an actuation signal: V090, V091 < 30 sec, V136A/B < 20 sec.

Testing is performed in references 8 through 13 that positions the valves to the open position. An actuation signal is generated by PMS using the PMS Maintenance and Test Panel (MTP) to generate a signal to close the valves and the valves are verified locally and in the MCR to be closed. The valve closure times are listed in Attachment D.

The completed test results (Reference 5 and 6) demonstrate that the Unit 3 and Unit 4 valves close within the following times after receipt of an actuation signal: V090, V091 < 30 sec, V136A/B < 20 sec.

iii) Each motor-operated valve changes position as indicated in Table 2.3.2-1 under pre-operational test conditions.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-CVS-ITPP-502 and 4-CVS-ITPP-502 (References 1 & 2) to confirm the motor-operated valves listed in COL Appendix C Table 2.3.2-1 (Attachment E) change position under pre-operational flow, differential pressure, and temperature conditions.

Testing establishes the preoperational test conditions of RCS at atmospheric pressure and ensures the RCS makeup rate is greater than or equal to 135 gpm and less than or equal to 175 gpm which provides the greatest differential pressure for makeup line Motor-operated Valve (MOV) operation. CVS-PL-V090 is closed and verified to be closed locally and then reopened. The preoperational test conditions are re-verified and CVS-PL-V091 is closed and verified to be closed locally.

Preoperational test conditions are established with the RCS at 555°F - 559°F degrees and 2220 psig – 2250 psig with purification in service at normal operating temperature and pressure. CVS-PL-V001 is closed and verified to be closed locally and then CVS-PL-V001 will be re-

opened. Preoperational test conditions are re-verified and CVS-PL-V002 is closed and verified to be closed locally, then CVS-PL-V002 will be opened. The preoperational test conditions are re-verified and CVS-PL-V003 is closed and verified to be closed locally.

The test results demonstrate that each motor-operated valve for Unit 3 and Unit 4 changes position as indicated in Table 2.3.2-1 under pre-operational test conditions.

iv) Each check valve changes position as indicated in Table 2.3.2-1.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-CVS-ITPP-502 and 4-CVS-ITPP-502 (References 1 & 2) to confirm that each check valve with an active safety function changes position as indicated in COL Table 2.3.2-1 (Attachment F) under pre-operational test pressure, temperature, and fluid flow conditions.

Preoperational test conditions are established with the RCS at 555°F - 559°F degrees and 2220 psig – 2250 psig for the performance of the check valve testing that follows.

With preoperational test conditions established and purification flow established, CVS-PL-V001 is closed and check valves CVS-PL-V080, CVS-PL-V081, and CVS-PL-V082 are verified to close using non-intrusive valve disc position verification.

With preoperational test conditions established and makeup and purification in service, CVS-PL-V081 is closed and CVS-PL-V067 is verified to be open by ultrasonic flow indication. CVS-PL-V081 is reopened and the ultrasonic flow indication (no flow) is used to demonstrate that CVS-PL-V067 is closed.

With preoperational test conditions established and makeup and purification in service, CVS-PL-V091 is closed and CVS-PL-V100 is verified to open by ultrasonic flow instrument indication. CVS-PL-V091 is opened and CVS-PL-V100 is verified to close by flow indication (no flow).

With preoperational test conditions established, hydrogen addition is performed to the RCS which demonstrates the CVS-PL-217 is open. The hydrogen injection package is isolated, the hydrogen injection valve CVS-PL-219 is verified to be open and the hydrogen injection line is vented off upstream of CVS-PL-V217. The pressure upstream of CVS-PL-217 is verified to lower which demonstrates the check valve has closed.

With preoperational test conditions established, pressurizer auxiliary spray is placed into service, the auxiliary spray air-operated valve is closed and CVS-PL-V085 is verified to close using non-intrusive valve disc position verification.

The completed test results (Reference 1 and 2) demonstrate that each check valve for Unit 3 and Unit 4 changes position as indicated in Table 2.3.2-1.

Upon loss of motive power, each remotely operated valve identified in Table 2.3.2-1 assumes the indicated loss of motive power position.

Testing is performed in accordance with Unit 3 and Unit 4 component test work packages, SNC921145 and SNCYYYYYY (References 3 & 4) to verify that each remotely operated valve identified in COL Table 2.3.2-1 (Attachment G) assume the indicated loss of motive power position upon a loss of motive power.

The motor-operated valves are placed in the closed position and the power supply to the motor operator is opened. The valves are verified to remain in the closed position and an attempt is made to open the valves with controls in the MCR. The valves are verified to remain in the closed position locally. The air operated valves are placed in the open position and verified to be open locally. Power to the air supply solenoids are opened, which isolates the supply air and opens a vent port, and the valves are verified to close locally. An attempt to open the valves is made using the controls in the MCR and the valves are verified to remain closed locally.

The completed test results (References 3 and 4) confirm that upon loss of motive power on Unit 3 and Unit 4, each remotely operated valve identified in Table 2.3.2-1 assumes the indicated loss of motive power position.

Controls in the MCR cause pumps identified in Table 2.3.2-3 to perform the listed function.

Testing is performed in accordance with Unit 3 and Unit 4 component test work packages, SNC921150 and SNCYYYYYY (References 16 & 17) to confirm controls in the MCR cause the pumps identified in COL Table 2.3.2-3 (Attachment H) to perform the listed function.

Testing is performed at an operator work station by navigating to the CVS makeup and letdown system screen. The A CVS makeup pump is started and verified to be running locally. The A CVS makeup pump is stopped, and the B CVS makeup pump is started and verified to be running locally.

The completed test results (Reference 16 and 17) confirm that controls in Unit 3 and Unit 4 MCR cause pumps identified in Table 2.3.2-3 to perform the listed function.

The pumps identified in Table 2.3.2-3 start after a signal is generated by the PLS.

Testing is performed in accordance with Unit 3 and Unit 4 component test work packages, SNC921150 and SNCYYYYYY (References 16 & 17) to confirm controls in the MCR cause the pumps identified in COL Table 2.3.2-3 (Attachment H) to perform the listed function.

Testing is performed at a PLS operator work station by navigating to the CVS - makeup and letdown system screen. The A CVS makeup pump is started and verified to be running locally. The A CVS makeup pump is stopped, and the B CVS makeup pump is started and verified to be running locally.

The completed test results (Reference 16 and 17) confirm that controls in Unit 3 and Unit 4 MCR cause pumps identified in Table 2.3.2-3 to perform the listed function.

Displays identified in Table 2.3.2-3 can be retrieved in the MCR.

An inspection is performed in accordance with Unit 3 and Unit 4 component test work packages, SNC921150 and SNCYYYYYY (References 16 & 17) to confirm displays identified in COL Table 2.3.2-3 (Attachment I) can be retrieved in the MCR.

Testing is performed at an operator work station by navigating to several CVS system screens, locating the items identified in Attachment I, and ensuring the items identified can be retrieved in the MCR.

The completed test results (Reference 16 and 17) confirm that displays identified in Table 2.3.2-3 can be retrieved in the Unit 3 MCR and in the Unit 4 MCR.

References 1 through 17 are available for NRC inspection as part of Unit 3 and Unit 4 ITAAC Completion Packages (Reference 18 and 19).

List of ITAAC Findings

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all findings pertaining to the subject ITAAC and associated corrective actions. This review found there are no relevant ITAAC findings associated with this ITAAC.

References (available for NRC inspection)

1. 3-CVS-ITPP-502, "Chemical and Volume Control System Pre-core Hot Functional Test Preoperational Test Procedure"
2. 4-CVS-ITPP-502, "Chemical and Volume Control System Pre-core Hot Functional Test Preoperational Test Procedure"
3. SNC921145, "CVS Remotely Operated Valve Stroke Test – ITAAC: SV3-2.3.02.08a.i, Item 09, 10a, and 11b"
4. SNCYYYYYY, "CVS Remotely Operated Valve Stroke Test – ITAAC: SV4-2.3.02.08a.i, Item 09, 10a, and 11b"
5. SNCXXXXXX
6. SNCYYYYYY
7. B-GEN-ITPCI-039, "PMS CIM Component Test Procedure"
8. 3-GEN-OTS-10-001, "DIVISION A QUARTERLY VALVE STROKE TEST"
9. 4-GEN-OTS-10-001, "DIVISION A QUARTERLY VALVE STROKE TEST"
10. 3-GEN-OTS-10-003, "DIVISION C QUARTERLY VALVE STROKE TEST"
11. 4-GEN-OTS-10-003, "DIVISION C QUARTERLY VALVE STROKE TEST"
12. 3-GEN-OTS-10-004, "DIVISION D QUARTERLY VALVE STROKE TEST"
13. 4-GEN-OTS-10-004, "DIVISION D QUARTERLY VALVE STROKE TEST"
14. 3-CVS-OTS-10-001, "Chemical And Volume Control System Valve Stroke Test"
15. 4-CVS-OTS-10-001, "Chemical And Volume Control System Valve Stroke Test"
16. SNC921150, "CVS Component Indication Verifications – ITAAC: SV3-2.3.02.08a.i, Item 12a, 12b, 13"
17. SNCYYYYYY, "CVS Component Indication Verifications – ITAAC: SV4-2.3.02.08a.i, Item 12a, 12b, 13"
18. 2.3.02.08a.i-U3-CP-Rev0, ITAAC Completion Package
19. 2.3.02.08a.i-U4-CP-Rev0, ITAAC Completion Package
20. NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52"

Attachment A

*Excerpt from COL Appendix C Table 2.3.2-1

| Table 2.3.2-1 | | |
|--|--------------|-------------------------|
| *Equipment Name | *Tag No. | *Safety-Related Display |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V001 | Yes (Valve Position) |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V002 | Yes (Valve Position) |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V003 | Yes (Valve Position) |
| CVS Letdown Containment Isolation Valve | CVS-PL-V045 | Yes (Valve Position) |
| CVS Letdown Containment Isolation Valve | CVS-PL-V047 | Yes (Valve Position) |
| CVS Auxiliary Pressurizer Spray Line Pressure Boundary Valve | CVS-PL-V084 | Yes (Valve Position) |
| CVS Makeup Line Containment Isolation Motor-operated Valve | CVS-PL-V090 | Yes (Valve Position) |
| CVS Makeup Line Containment Isolation Motor-operated Valve | CVS-PL-V091 | Yes (Valve Position) |
| CVS Zinc Injection Containment Isolation Valve ORC | CVS-PL-V092 | Yes (Valve Position) |
| CVS Zinc Injection Containment Isolation Valve IRC | CVS-PL-V094 | Yes (Valve Position) |
| CVS Demineralized Water Isolation Valve | CVS-PL-V136A | Yes (Valve Position) |
| CVS Demineralized Water Isolation Valve | CVS-PL-V136B | Yes (Valve Position) |
| CVS Hydrogen Injection Containment Isolation Valve ORC | CVS-PL-V219 | Yes (Valve Position) |

Attachment B

*Excerpt from COL Appendix C Table 2.3.2-1

| Table 2.3.2-1 | | | |
|--|-----------------|---------------------------------|-------------------------|
| *Equipment Name | *Tag No. | *Remotely Operated Valve | *Active Function |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V001 | Yes | Transfer Closed |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V002 | Yes | Transfer Closed |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V003 | Yes | Transfer Closed |
| CVS Letdown Containment Isolation Valve | CVS-PL-V045 | Yes | Transfer Closed |
| CVS Letdown Containment Isolation Valve | CVS-PL-V047 | Yes | Transfer Closed |
| CVS Auxiliary Pressurizer Spray Line Pressure Boundary Valve | CVS-PL-V084 | Yes | Transfer Closed |
| CVS Makeup Line Containment Isolation Motor-operated Valve | CVS-PL-V090 | Yes | Transfer Closed |
| CVS Makeup Line Containment Isolation Motor-operated Valve | CVS-PL-V091 | Yes | Transfer Closed |
| CVS Zinc Injection Containment Isolation Valve ORC | CVS-PL-V092 | Yes | Transfer Closed |
| CVS Zinc Injection Containment Isolation Valve IRC | CVS-PL-V094 | Yes | Transfer Closed |
| CVS Demineralized Water Isolation Valve | CVS-PL-V136A | Yes | Transfer Closed |
| CVS Demineralized Water Isolation Valve | CVS-PL-V136B | Yes | Transfer Closed |
| CVS Hydrogen Injection Containment Isolation Valve ORC | CVS-PL-V219 | Yes | Transfer Closed |

Attachment C

*Excerpt from COL Appendix C Table 2.3.2-1

| Table 2.3.2-1 | | | |
|--|--------------|--------------|------------------|
| *Equipment Name | *Tag No. | *Control PMS | *Active Function |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V001 | Yes | Transfer Closed |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V002 | Yes | Transfer Closed |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V003 | Yes | Transfer Closed |
| CVS Letdown Containment Isolation Valve | CVS-PL-V045 | Yes | Transfer Closed |
| CVS Letdown Containment Isolation Valve | CVS-PL-V047 | Yes | Transfer Closed |
| CVS Auxiliary Pressurizer Spray Line Pressure Boundary Valve | CVS-PL-V084 | Yes | Transfer Closed |
| CVS Makeup Line Containment Isolation Motor-operated Valve | CVS-PL-V090 | Yes | Transfer Closed |
| CVS Makeup Line Containment Isolation Motor-operated Valve | CVS-PL-V091 | Yes | Transfer Closed |
| CVS Zinc Injection Containment Isolation Valve ORC | CVS-PL-V092 | Yes | Transfer Closed |
| CVS Zinc Injection Containment Isolation Valve IRC | CVS-PL-V094 | Yes | Transfer Closed |
| CVS Demineralized Water Isolation Valve | CVS-PL-V136A | Yes | Transfer Closed |
| CVS Demineralized Water Isolation Valve | CVS-PL-V136B | Yes | Transfer Closed |
| CVS Hydrogen Injection Containment Isolation Valve ORC | CVS-PL-V219 | Yes | Transfer Closed |

Attachment D

*Excerpt from COL Appendix C Table 2.3.2-1

| Table 2.3.2-1 | | | | |
|--|-----------------|---------------------------------|---------------------|----------------------|
| *Equipment Name | *Tag No. | *Remotely Operated Valve | *Control PMS | *Closure Time |
| CVS Makeup Line Containment Isolation Motor-operated Valve | 3-CVS-PL-V090 | Yes | Yes | XX sec |
| CVS Makeup Line Containment Isolation Motor-operated Valve | 3-CVS-PL-V091 | Yes | Yes | XX sec |
| CVS Demineralized Water Isolation Valve | 3-CVS-PL-V136A | Yes | Yes | XX sec |
| CVS Demineralized Water Isolation Valve | 3-CVS-PL-V136B | Yes | Yes | XX sec |
| CVS Makeup Line Containment Isolation Motor-operated Valve | 4-CVS-PL-V090 | Yes | Yes | XX sec |
| CVS Makeup Line Containment Isolation Motor-operated Valve | 4-CVS-PL-V091 | Yes | Yes | XX sec |
| CVS Demineralized Water Isolation Valve | 4-CVS-PL-V136A | Yes | Yes | XX sec |
| CVS Demineralized Water Isolation Valve | 4-CVS-PL-V136B | Yes | Yes | XX sec |

Attachment E

*Excerpt from COL Appendix C Table 2.3.2-1

| Table 2.3.2-1 | | |
|--|-------------|------------------|
| *Equipment Name | *Tag No. | *Active Function |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V001 | Transfer Closed |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V002 | Transfer Closed |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V003 | Transfer Closed |
| CVS Makeup Line Containment Isolation Motor-operated Valve | CVS-PL-V090 | Transfer Closed |
| CVS Makeup Line Containment Isolation Motor-operated Valve | CVS-PL-V091 | Transfer Closed |

Attachment F

*Excerpt from COL Appendix C Table 2.3.2-1

| Table 2.3.2-1 | | |
|--|-------------|-----------------------------------|
| *Equipment Name | *Tag No. | *Active Function |
| CVS Makeup Return Line Bypass Check Valve | CVS-PL-V067 | Transfer Open/ Transfer Closed |
| CVS Purification Return Line Pressure Boundary Check Valve | CVS-PL-V080 | Transfer Closed |
| CVS Purification Return Line Pressure Boundary Isolation Check Valve | CVS-PL-V081 | Transfer Closed |
| CVS Purification Return Line Pressure Boundary Check Valve | CVS-PL-V082 | Transfer Closed |
| CVS Auxiliary Pressurizer Spray Line Pressure Boundary Check Valve | CVS-PL-V085 | Transfer Closed |
| CVS Makeup Line Containment Isolation Thermal Relief Valve | CVS-PL-V100 | Transfer Open/ Transfer Closed |
| CVS Hydrogen Injection Containment Isolation Check Valve IRC | CVS-PL-V217 | Transfer Closed |

Attachment G

*Excerpt from COL Appendix C Table 2.3.2-1

| Table 2.3.2-1 | | | |
|--|--------------|--------------------------|--------------------------------|
| *Equipment Name | *Tag No. | *Remotely Operated Valve | *Loss of Motive Power Position |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V001 | Yes | As Is |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V002 | Yes | As Is |
| RCS Purification Motor-Operated Isolation Valve | CVS-PL-V003 | Yes | As Is |
| CVS Letdown Containment Isolation Valve | CVS-PL-V045 | Yes | Closed |
| CVS Letdown Containment Isolation Valve | CVS-PL-V047 | Yes | Closed |
| CVS Auxiliary Pressurizer Spray Line Pressure Boundary Valve | CVS-PL-V084 | Yes | Closed |
| CVS Makeup Line Containment Isolation Motor-operated Valve | CVS-PL-V090 | Yes | As Is |
| CVS Makeup Line Containment Isolation Motor-operated Valve | CVS-PL-V091 | Yes | As Is |
| CVS Zinc Injection Containment Isolation Valve ORC | CVS-PL-V092 | Yes | Closed |
| CVS Zinc Injection Containment Isolation Valve IRC | CVS-PL-V094 | Yes | Closed |
| CVS Demineralized Water Isolation Valve | CVS-PL-V136A | Yes | Closed |
| CVS Demineralized Water Isolation Valve | CVS-PL-V136B | Yes | Closed |
| CVS Hydrogen Injection Containment Isolation Valve ORC | CVS-PL-V219 | Yes | Closed |

Attachment H

*Excerpt from COL Appendix C Table 2.3.2-3

| Table 2.3.2-1 | | |
|-------------------|------------|-------------------|
| *Equipment | *Tag No. | *Control Function |
| CVS Makeup Pump A | CVS-MP-01A | Start |
| CVS Makeup Pump B | CVS-MP-01B | Start |

Attachment I

*Excerpt from COL Appendix C Table 2.3.2-3

| *Equipment Name | *Tag No. | *Display |
|---|-----------------|---------------------|
| CVS Makeup Pump A | CVS-MP-01A | Yes (Run Status) |
| CVS Makeup Pump B | CVS-MP-01B | Yes (Run Status) |
| Purification Flow Sensor | CVS-001 | Yes |
| Purification Return Flow Sensor | CVS-025 | Yes |
| CVS Purification Return Line (Position Indicator) | CVS-PL-V081 | Yes |
| Auxiliary Spray Line Isolation Valve (Position Indicator) | CVS-PL-V084 | Yes |
| Boric Acid Storage Tank Level Sensor | CVS-109 | Yes |
| Boric Acid Flow Sensor | CVS-115 | Yes |
| Makeup Blend Valve (Position Indicator) | CVS-PL-V115 | Yes |
| CVS Demineralized Water Isolation Valve (Position Indicator) | CVS-PL-V136A | Yes |
| CVS Demineralized Water Isolation Valve (Position Indicator) | CVS-PL-V136B | Yes |
| Makeup Pump Discharge Flow Sensor | CVS-157 | Yes |
| Makeup Flow Control Valve (Position Indicator) | CVS-PL-V157 | Yes |