Southern Nuclear

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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 February 1, 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.

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)(3) 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

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-19-0077
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 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 batch boron addition to the RCS. The A CVS makeup pump suction is aligned to the boric acid storage tank and a batch boron addition is initiated using the operating procedure. The flow on the discharge 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 is XXX gpm and the Unit 3 B CVS makeup pump flow is YYY gpm. The Unit 4 A CVS makeup pump flow is XXX gpm and the Unit 4 B CVS makeup pump flow is YYY gpm. This confirms 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 perform an automatic blended makeup to the RCS. The makeup flow control valve is placed in manual 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 rate is equal to or greater than 100 gpm.

The discharge flow 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 greater than or equal to 100 gpm at the pump discharge and the flow is monitored and trended. The Unit 3 A CVS makeup pump flow is XXX gpm and the Unit 3 B CVS makeup pump flow is YYY gpm. The Unit 4 A CVS makeup pump flow is XXX gpm and the Unit 4 B CVS makeup pump flow is YYY gpm. This demonstrates that each VCS 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 procedures SV3-ITAAC-ST-2.3.02.08a.i, Item 09, 10a, and 11b and SV4-ITAAC-ST-2.3.02.08a.i, Item 09, 10a, and 11b (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. This confirms that safety-related displays identified in Attachment A can be retrieved in the 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 procedures SV3-ITAAC-ST-2.3.02.08a.i, Item 09, 10a, and 11b and SV4-ITAAC-ST-2.3.02.08a.i, Item 09, 10a, and 11b (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. This demonstrates that controls in the Unit 3 and Unit 4 MCR operate to cause the remotely operated valves identified in Attachment B 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 preoperational test procedures 3-PMS-ITPP-504 and 4-PMS-ITPP-504 (References 5 & 6), 3-PMS-ITPP-523 and 4-PMS-ITPP-523 (References 7 & 8), and 3- PMS-ITPP-524 and 4-PMS-ITPP-524 (References 9 & 10) to demonstrate that the valves identified in COL 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.

Testing is performed in references 5 & 6 that positions valves CVS-PL-V136A, CVS-PL-V136B to the open position. A PMS PRHR Actuation signal is generated by opening the PRHR heat exchanger outlet flow control valve. This generates an automatic PRHR actuation from PMS. The valves are verified to perform their active function to transfer closed.

Testing is performed in references 7 & 8 that positions valves CVS-PL-V045, CVS-PL-V047, CVS-PL-V092, CVS-PL-V094, and CVS-PL-V219 to the open position. A high-2 containment

pressure signal is generated by simulating a signal on the output terminals of the containment pressure instruments which generates a PMS safeguards signal and a containment Isolation signal. The valves are verified to perform their active function to transfer closed.

Testing is performed in references 9 & 10 that positions valves CVS-PL-V001, CVS-PL-V0002, CVS-PL-V003, CVS-PL-V084, CVS-PL-V090, and CVS-PL-V091 to the open position. A PMS CVS Makeup Isolation is initiated by manual actuation and valves CVS-PL-V001, CVS-PL-V0002, CVS-PL-V003 and CVS-PL-V084 are verified to perform their active function to transfer closed. A PMS Boron Dilution Block is initiated by simulating a source range flux doubling and valves CVS-PL-V090 and CVS-PL-V091 are verified to perform their active function to transfer closed.

The test results demonstrate that the valves identified in Attachment C for Unit 3 and Unit 4 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 preoperational test procedures 3-PMS-ITPP-504 and 4-PMS-ITPP-504 (References 5 & 6) and 3-PMS-ITPP-524 and 4-PMS-ITPP-524 (references 9 & 10) to demonstrate that the remotely operated CVS isolation valves CVS-V090, V091, V136A/B listed in 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 5 & 6 that positions valves CVS-PL-V136A, CVS-PL-V136B to the open position. A PMS PRHR Actuation signal is generated by opening the PRHR heat exchanger outlet flow control valve. This generates an automatic PRHR actuation from PMS. The valves are timed using a PMS tabular trend and verified to meet the acceptance criteria. The valve closure times are listed in Attachment D.

Testing is performed in references 9 & 10 that positions valves CVS-PL-V090 and CVS-PL-V091 to the open position. A source range flux doubling signal is generated by simulating a flux doubling signal PMS reactor trip and Boron Dilution Block signal. The valves are timed using a PMS tabular trend and verified to meet the acceptance criteria. The valve closure times are listed in Attachment D.

The test results 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 Attachment E 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 test results demonstrate that each check valve for Unit 3 and Unit 4 changes position as indicated in Attachment F.

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 procedures SV3-ITAAC-ST-2.3.02.08a.i, Item 09, 10a, and 11b and SV4-ITAAC-ST-2.3.02.08a.i, Item 09, 10a, and 11b (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 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 test results confirm that upon loss of motive power on Unit 3 and Unit 4, each remotely operated valve identified in Attachment G 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 procedures SV3-ITAAC-ST-2.3.02.08a.i, Items 12a, 12b, 13 and SV4-ITAAC-ST-2.3.02.08a.i, Items 12a, 12b, 13 (References 11 & 12) 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 test results confirm that controls in Unit 3 and Unit 4 MCR cause pumps identified in Attachment H 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 procedures SV3-ITAAC-ST-2.3.02.08a.i, Items 12a, 12b, 13 and SV4-ITAAC-ST-2.3.02.08a.i, Items 12a, 12b, 13 (References 11 & 12) 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 test results confirm that controls in Unit 3 and Unit 4 MCR cause pumps identified in Attachment H 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 procedures SV3-ITAAC-ST-2.3.02.08a.i, Items 12a, 12b, 13 and SV4-ITAAC-ST-2.3.02.08a.i, Items 12a, 12b, 13 (References 11 & 12) 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 test results demonstrate 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 12 are available for NRC inspection as part of Unit 3 and Unit 4 ITAAC Completion Packages (Reference 13 and 14).

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. SV3-ITAAC-ST-2.3.02.08a.i, Item 09, 10a, and 11b "CVS Remotely Operated Valve Stroke Test – ITAAC: SV3-2.3.02.08a.i, Item 09, 10a, and 11b"
4. SV4-ITAAC-ST-2.3.02.08a.i, Item 09, 10a, and 11b "CVS Remotely Operated Valve Stroke Test – ITAAC: SV3-2.3.02.08a.i, Item 09, 10a, and 11b"
5. 3-PMS-ITPP-504, "PMS REACTOR TRIP BREAKERS"
6. 4-PMS-ITPP-504, "PMS REACTOR TRIP BREAKERS
7. 3-PMS-ITPP-523, "Containment Pressure High-2 Actuation Preoperational Test Procedure"
8. 4-PMS-ITPP-523, "Containment Pressure High-2 Actuation Preoperational Test Procedure"
9. 3- PMS-ITPP-524, "PMS Cold Actuations Preoperational Test Procedure"
10. 4- PMS-ITPP-524, "PMS Cold Actuations Preoperational Test Procedure"
11. SV3-ITAAC-ST-2.3.02.08a.i, Items 12a, 12b, 13, "CVS Component Indication Verifications"
12. SV4-ITAAC-ST-2.3.02.08a.i, Items 12a, 12b, 13, "CVS Component Indication Verifications"
13. 2.3.02.08a.i-U3-CP-Rev 0, ITAAC Completion Package
14. 2.3.02.08a.i-U4-CP-Rev 0, ITAAC Completion Package
15. 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