Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

CNL-17-066

June 9, 2017

10 CFR 50.90

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Watts Bar Nuclear Plant, Unit 2
Facility Operating License No. NPF-96
NRC Docket No. 50-391

Subject: **Response to Request for Additional Information Regarding Watts Bar Nuclear Plant, Unit 2 License Amendment Request for One-Time Extension of Technical Specification Surveillance Requirements Group 2 (LAR Encl. 1 Attachments 5, 6, 7, 9, 12, 13, 14, 15, 16, and 17) (CAC No. MF8895)**

Reference:
1. TVA Letter to NRC, CNL-16-110, "Application to Modify Watts Bar Nuclear Plant Unit 2 Technical Specifications to Extend Surveillance Requirement Specified Intervals (WBN-TS-16-020)," dated November 23, 2016 (ML16333A250)
2. NRC Electronic Mail to TVA, "Request for Additional Information - Watts Bar Unit 2 SR Extension LAR - MF8895," dated May 11, 2017 (ML17135A028)

In Reference 1, the Tennessee Valley Authority (TVA) submitted a request for an amendment to the Watts Bar Nuclear Plant (WBN) Unit 2 Technical Specifications (TS) to revise Surveillance Requirement (SR) 3.0.2 to extend, on a one-time basis, those SRs listed in Table 1 of Enclosure 1 to Reference 1 that are normally performed on an 18-month frequency in conjunction with a refueling outage. In Reference 2, the Nuclear Regulatory Commission (NRC) submitted a request for additional information (RAI) and requested that TVA respond to the RAI by June 9, 2017. The enclosure to this letter provides the TVA response to the RAI.

These responses do not change the no significant hazards considerations determination contained in Reference 1. Please address any questions regarding this response to Ed Schrull at 423-751-3850.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 9th day of June 2017.

Respectfully,

J. W. Shea
Vice President, Nuclear Licensing

Enclosure: Response to Request for Additional Information Regarding Watts Bar Nuclear Plant, Unit 2 License Amendment Request for One-Time Extension of Technical Specification Surveillance Requirements Group 2 (LAR Encl. 1 Attachments 5, 6, 7, 9, 12, 13, 14, 15, 16, and 17) (CAC No. MF8895)

cc (Enclosure):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector - Watts Bar Nuclear Plant
NRR Project Manager - Watts Bar Nuclear Plant

Enclosure

Response to Request for Additional Information Regarding Watts Bar Nuclear Plant, Unit 2 License Amendment Request for One-Time Extension of Technical Specification Surveillance Requirements Group 2 (LAR Encl. 1 Attachments 5, 6, 7, 9, 12, 13, 14, 15, 16, and 17) (CAC No. MF8895)

Nuclear Regulatory Commission (NRC) Introduction

"By letter dated November 23, 2016, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16333A250), Tennessee Valley Authority (TVA), submitted a license amendment request (LAR) for Watts Bar Nuclear Plant, Unit 2. The LAR proposes to revise Technical Specification (TS) Surveillance Requirement (SR) 3.0.2 to extend, on a one-time basis, specific SRs that are normally performed on an 18-month frequency in conjunction with a refueling outage. Of the 52 SRs in the LAR, the staff is currently reviewing the 33 SRs represented in attachments 5, 6, 7, 9, 12, 13, 14, 15, 16, and 17, to Enclosure 1 of the LAR.

The staff has identified areas where additional information is needed to complete its technical review and make a regulatory finding regarding this LAR in accordance with the requirements of Title 10 of the Code of Federal Regulations (10 CFR) 50.36, which sets forth the regulatory requirements for the content of the TSs. Specifically,10 CFR 50.36(c)(3) requires SRs to be included in the TS, and states that SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met. The following 5 requests for additional information (RAIs) are from the NRC/NRR Balance of Plant and Instrumentation & Controls Branches."

NRC RAI-MF8895-SBPB-01

"In attachment 15 to Enclosure 1 of the November 23, 2016, LAR, the section titled, "Review of Operating Experience" states:

> *On June 5, 2016, an automatic SI occurred. This functionally tested the automatic actuation logic for ECCS, CIVs, CSS, EGTS, CCS, and ERCW systems. All safety systems functioned as designed and previously evaluated in the UFSAR.*
>
> *This functionally tested the automatic actuation logic for the ECCS SR via the slave relays K603, K604, and K608. The K603 and K604 relays provided the automatic alignment of the ECCS valves. K608 provided the automatic start signal to the ECCS pumps. ECCS responded as expected to the automatic SI signal. The automatic actuation signal to ECCS was functionally tested on June 5, 2016. All other functions of the circuit were tested and were within frequency, which includes the end device operation of ECCS.*

Did the June 5, 2016, automatic Safety Injection (SI) also result in pumps/fans starting in the Containment Spray System (CSS), Emergency Gas Treatment System (EGTS), Component Cooling System (CCS) and essential raw cooling water (ERCW) systems, and cause valves and dampers in these systems to reposition, and containment isolation valves (CIVs) in other systems to reposition? If so, which components were observed to respond properly and which were already operating or in their safety position such that the automatic SI did not yield much in the way of verification for those components and associated circuitry that performing the SR implementing procedures would obtain?"

TVA Response:

The requested information is provided in Table 1 to this enclosure, which lists the components of the systems that actuated during the June 5, 2016, automatic SI, their pre-auto SI state and their state following the SI. Table 1 also identifies the components that were in the safety position/status and could not be verified for proper SI actuation (see Note 2 to Table 1). The components listed in Table 1 that were able to be verified, were verified by using computer points showing a change in state from their pre-SI position to their post-SI position.

As shown in Table 1:

- The EGTS fans did start during the June 5, 2016, automatic SI and some valves realigned.
- The CCS pumps not already running did start during the June 5, 2016, automatic SI.
- The ERCW pumps aligned to start automatically started upon receipt of the June 5, 2016, SI signal, and some essential valves aligned to their post-accident positions (see Table 1, SRs 3.7.8.2 and 3.7.8.3).
- Some CIVs pre-auto and SI actuation condition could be verified (see Table 1, SR 3.6.3.6). The CIVs for the EGTS, CCS, and ERCW did not change state as result of the June 5, 2016, SI signal.

Furthermore, while developing this RAI response, TVA has determined that the quoted paragraph in the RAI from Attachment 15 to Enclosure 1 of the referenced letter regarding the June 5, 2016, automatic SI should have not referred to the CSS. The CSS receives a containment spray engineered safety feature actuation system signal, but not an SI signal.

NRC RAI-MF8895-EICB-1

"In Attachment 6 to Enclosure 1 of the LAR, the licensee identified SR 3.3.2.2 and SR 3.3.2.3, as providing alternate means of partially satisfying SR 3.3.2.5 and SR 3.3.2.7. SR 3.3.2.2 requires an actuation logic test to be performed on the engineered safety feature actuation system (ESFAS) instrumentation. The WBN Unit 2 SR 3.3.2.2 Bases state, "The train being tested is placed in the bypass condition, thus preventing inadvertent actuation. Through the semiautomatic tester, all possible logic combinations, with and without applicable permissives, are tested for each protection function. In addition, the master relay coil is pulse tested for continuity." SR 3.3.2.3 requires a master relay test to be performed on the ESFAS instrumentation. The WBN Unit 2 SR 3.3.2.3 Bases state, "The MASTER RELAY TEST is the energizing of the master relay, verifying contact operation and a low voltage continuity check of the slave relay coil. Upon master relay contact operation, a low voltage is injected to the slave relay coil. This voltage is insufficient to pick up the slave relay, but large enough to demonstrate signal path continuity." Neither SR 3.3.2.2 nor SR 3.3.2.3 actually exercise the slave relays.

a. *Please provide the rationale as to why the continuity check satisfies the SR 3.3.2.5 requirement to perform an actuation logic test of the slave relays. Specifically, please explain how the slave relay coil is powered on or off while simultaneously monitoring the circuit that is driven by the slave relay contacts.*

b. Please explain what specific parameters are being monitored in the slave relay output circuit when the slave relay coil is being powered on or off. Please explain how the change of state of the output relay in response to application of power to the slave relay coil is verified.

c. Please provide equivalent Unit 1 and Unit 2 data, including failure date, for the testing performed as part of SR 3.3.2.5 and SR 3.3.2.7"

TVA Response

a. The testing of the Master relays also includes a continuity check of the slave relay coil to verify the master relay contact has actuated. This testing energizes the slave relay coil with 15 volts DC vice the normal coil pickup 120 volts AC to prevent component actuation. This testing does not satisfy SR 3.3.2.5, but does confirm the slave relay coil has not open-circuited and provides some measure that the slave relay could actuate. Additionally, TVA performs a continuity check of the slave relay coil on a quarterly basis in accordance with SR 3.3.2.3. Therefore, TVA is confident that the slave relays will remain operable during the extended surveillance period.

b. As noted in the response to item a. above, for surveillance testing that satisfies SR 3.3.2.5, the slave relay is actuated and slave relay contact operation is verified. While the change of state of the output relay is not specifically verified, as noted in the response to item a. above, the testing of the Master relays also includes a continuity check of the slave relay coil to verify the master relay contact has actuated.

c. The requested information for the associated functions of the Watts Bar Nuclear Plant (WBN) TS SR 3.3.2.5 and SR 3.3.2.7 (see Attachment 6 to Enclosure 1 of the referenced letter) is provided in Tables 2 and 3 to this enclosure, respectively. As shown in Table 2, there were no failures for the performances of SR 3.3.2.5. As shown in Table 3, there were three documented failures for SR 3.3.2.7, but in each case, the associated components were retested satisfactorily.

NRC RAI-MF8895-EICB-2

"In Attachment 7 to Enclosure 1 of the LAR, the licensee stated that no additional testing has been performed since the surveillance activity for SR 3.3.2.8, functions 1.a, 2.a, 3.a.1, and 3.b.1 was last performed. The licensee identified the performance of SR 3.3.2.2 and SR 3.3.2.3 as providing further assurance of the operability of the ESFAS instrumentation. SR 3.3.2.2 requires an actuation logic test to be performed on the ESFAS instrumentation every 92 days on a staggered test basis, and SR 3.3.2.3 requires a master relay test to be performed on the ESFAS instrumentation every 92 days on a staggered test basis.

a. Please identify if the manual initiation of the hand switches is tested under SR 3.3.2.2 or SR 3.3.2.3.

b. *If the hand switches are not part of the test performed under SR 3.3.2.2 or SR 3.3.2.3, please identify the last time the hand switches for SR 3.3.2.8, functions 1.a, 2.a, 3.a.1, and 3.b.1 were exercised under test or operational conditions, where the results of the hand switch changing state were observable."*

TVA Response

a. The manual initiation of the hand switches is not tested under SR 3.3.2.2 or SR 3.3.2.3. As noted in the Attachment 7 to Enclosure 1 of the referenced letter, further assurance of the operability of the ESFAS instrumentation is demonstrated through the performance of SRs 3.3.2.2 and 3.3.2.3. SR 3.3.2.2 requires an actuation logic test to be performed on the ESFAS instrumentation every 92 days on a staggered test basis. SR 3.3.2.3 requires a master relay test to be performed on the ESFAS instrumentation every 92 days on a staggered test basis.

b. As noted in Attachment 7 to Enclosure 1 of the referenced letter, SR 3.3.2.8, functions 1.a, 2.a, 3.a.1, and 3.b.1 apply to the following hand switches:

   - WBN-2-HS-63-133A - SI Actuate
   - WBN-2-HS-63-133B - SI Actuate
   - WBN-2-HS-30-64A - Phase B & CVI
   - WBN-2-HS-30-64B - Phase B & CVI
   - WBN-2-HS-30-68A - Phase B & CVI
   - WBN-2-HS-30-68B - Phase B & CVI
   - WBN-2-HS-30-63A - Phase A & CVI
   - WBN-2-HS-30-63B - Phase A & CVI

   The testing of WBN-2-HS-63-133A and WBN-2-HS-63-133B is performed using 0-SI-82-5, “18 Month Loss Of Offsite Power With Safety Injection - DG 2A-A,” and 0-SI-82-6, “18 Month Loss Of Offsite Power With Safety Injection - DG 2B-B.” 0-SI-82-5 was last performed satisfactorily on September 16, 2015, and 0-SI-82-6 was last performed satisfactorily on September 7, 2015.

   The testing of WBN-2-HS-30-64A, WBN-2-HS-30-64B, WBN-2-HS-30-68A, WBN-2-HS-30-68B, WBN-2-HS-30-63A, and WBN-2-HS-30-63B is performed using 2-SI-99-5, “18 Month Trip Actuating Device Operational Test for Phase A, Phase B, Containment Vent, and Containment Spray Manual Initiation.” 2-SI-99-5 was last performed satisfactorily on October 7, 2015.

RAI-MF8895-EICB-3

“In Attachment 9 to Enclosure 1 of the LAR the licensee identified the level transmitters are the same make and model (Barton 764) for both units, and two of the three wide range pressure transmitters are the same make and model (Barton 763) for both units. The third pressure transmitter is a Weed transmitter with manufacturer’s drift specification of 0.4% of the range (6000 psig) over 24 months (i.e., a drift of 24 psig).

a. For the Barton 764 level transmitters and the Barton 763 pressure transmitters, please provide equivalent Unit 1 calibration results data as well as channel check results for the previous 2 years.

b. Please identify any verification performed to confirm the manufacturer’s drift values for the Weed transmitter.

c. *Please include the design basis "as-found" and "as-left" tolerances for the transmitters associated with these SRs in your responses to a. and b. above."*

TVA Response

a. The WBN Unit 1 channel calibration data for at least the previous two years for the Reactor Vessel Level Instrumentation System (RVLIS) Barton 764 level transmitters and Barton 763 pressure transmitters (SR 3.3.3.2, Functions 5 and 6) is provided in Tables 4 and 5. As shown in Tables 4 and 5, the as-left data was either the same as the as-found or was within their tolerance criteria.

   The WBN Unit 1 channel checks for the RVLIS Barton 764 level transmitters and Barton 763 pressure transmitters (SR 3.3.3.1, Functions 5 and 6) are performed in accordance with 1-SI-0-4, "Monthly Surveillances." The dates that the WBN Unit 1 channel checks were performed for these components for at least the previous two years is provided in Table 6. The monthly channel check is performed by recording the readings for each instrument for the SR function, comparing the lowest reading to the highest reading, and determining if the difference between the lowest reading and the highest reading is within the maximum channel deviation (MCD). If any channel deviation exceeds 80% of the MCD limit, the Unit Supervisor is notified so that the condition can be evaluated and appropriate corrective actions taken. The channel checks performed in Table 6 were all completed satisfactorily.

b. TVA has not verified the manufacturer's drift data for the Weed transmitter. Drift tolerances from the manufacturer are not normally verified for any instrument. The drift tolerances are used in establishing design requirements accounting for drift. If repeated out of tolerances occur, the instrument would be reviewed for acceptability of drift tolerances and specific instrument application in accordance with the TVA corrective action program. Further assurance of the operability of the Weed transmitters is provided by the performance of the WBN Unit 2 channel checks (SR 3.3.3.1, Functions 5 and 6) in accordance with 2-SI-0-4, "Monthly Surveillances." The dates that the WBN Unit 2 channel checks were performed for these components is provided in Table 6. The channel checks performed in Table 6 were all completed satisfactorily.

c. The as-found and as-left tolerances vary for each of the transmitters associated with SR 3.3.3.1, Functions 5 and 6 are defined in the individual SIs as shown in Tables 4, 5, 7, and 8 to this enclosure. As noted in the response to item a. above, for WBN Unit 1, as shown in Tables 4 and 5, the as-left data was either the same as the as-found or was within their tolerance criteria. A review of the historical performances for each of the associated surveillance instructions (SIs) for WBN Unit 2 SR 3.3.3.2, Functions 5 and 6 is provided in Tables 7 and 8 to this enclosure, respectively. As shown in Tables 7 and 8, the as-left data was either the same as the as-found or was within their tolerance criteria.

RAI-MF8895-EICB-4

"In Attachment 14 to Enclosure 1 of the LAR the licensee did not identify any operating experience applicable to SR 3.4.12.8, or any other testing as providing alternate means of partially satisfying SR 3.4.12.8.

Please provide equivalent Unit 1 calibration data for the testing performed as part of this surveillance. Please include the as-found and as-left tolerances."

TVA Response

A review of the last four performances for each of the SIs for WBN Unit 1 SR 3.4.12.8 was performed. The as-found and as-left tolerances vary for each of the transmitters associated with SR 3.4.12.8 and are defined in the individual SIs as shown in Table 9 to this enclosure. As shown in Table 9 to this enclosure, the as-left data was either the same as the as-found or was within their tolerance criteria.

Reference

TVA Letter to NRC, CNL-16-110, "Application to Modify Watts Bar Nuclear Plant Unit 2 Technical Specifications to Extend Surveillance Requirement Specified Intervals (WBN-TS-16-020)," dated November 23, 2016 (ML16333A250)

Table 1
Component Actuation During the June 5, 2016, automatic SI

SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.5.2.5	K603-A	2-FCV-62-90, CHARGING FLOW ISOL VALVE	Open	Closed	Y
		2-LCV-62-132, VCT OUTLET ISOL LEVEL CNTL VLV	Open	Closed	Y
		2-FCV-63-26, SIS BORON INJ TK SHUTOFF VLV	Closed	Open	Y
		2-FCV-74-16, RHR HT EX A OUTLET FLOW CNTL VLV	Open	Open	N
	K603-B	2-FCV-62-91, CHARGING FLOW ISOL VALVE	Open	Closed	Y
		2-LCV-62-133, VCT OUTLET ISOL VLV LEVEL CNTL	Open	Closed	Y
		2-FCV-63-25, SIS BORON INJ TK SHUTOFF VLV	Closed	Open	Y
		2-FCV-74-28, RHR HT EX B OUTLET FLOW CNTL VLV	Open	Open	N
	K604-A	2-LCV-62-135, CHARGING PUMP FLOW RWST	Closed	Open	Y
	K604-B	2-LCV-62-136, CHARGING PUMP FLOW RWST	Closed	Open	Y
3.5.2.6	K608-A	2-PMP-62-108-A, CENTRIFUGAL CHARGING PMP 2A-A	Stopped	Running	Y
		2-PMP-063-0010-A, SAFETY INJECTION PMP 2A-A	Stopped	Running	Y
		2-PMP-70-59, CCS PMP 2A-A	Running	Running	N
		0-PMP-70-51-S, CCS PMP C-S	Running	Running	N
		2-PMP-74-10-A, RHR PUMP 2A-A	Stopped	Running	Y
	K608-B	2-PMP-62-104-B, CENTRIFUGAL CHARGING PMP 2B-B	Running	Running	N
		2-PMP-63-15-B, SAFETY INJECTION PMP 2B-B	Stopped	Running	Y
		2-PMP-70-33, CCS PMP 2B-B	Stopped	Running	Y
		0-PMP-70-51-S, CCS PMP C-S	Running	Running	N
		2-PMP-74-20-B, RHR PUMP 2B-B	Stopped	Running	Y

Table 1 Component Actuation During the June 5, 2016, automatic SI					
SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.6.3.6	K605-A	2-FCV-1-14, SG 2 BLOWDOWN FLOW CONTROL VLV	Note 2	Closed	N
		2-FCV-1-32, SG 4 BLOWDOWN FLOW CONTROL VLV	Note 2	Closed	N
		2-FCV-1-181, SG 1 BLOWDOWN ISOLATION VLV	Note 2	Closed	N
		2-FCV-1-183, SG 3 BLOWDOWN ISOLATION VLV	Note 2	Closed	N
		2-FCV-43-3, PRESSURIZER GAS CNTMT ISOL VLV	Note 2	Closed	N
		2-FCV-43-12, PRESSURIZER LIQ CNTMT ISOL VLV	Note 2	Closed	N
		2-FCV-43-23, RCS HOT LEGS HDR CNTMT ISOL VLV	Note 2	Closed	N
		2-FCV-43-35, ACCUM TK HDR CNTMT ISOL VLV	Note 2	Closed	N
		2-FCV-43-55, STM GEN BLDN NO 1 SAMP ISOL VLV	Note 2	Closed	N
		2-FCV-43-58, STM GEN BLDN NO 2 SAMP ISOL VLV	Note 2	Closed	N
		2-FCV-43-61, STM GEN BLDN NO 3 SAMP ISOL VLV	Note 2	Closed	N
		2-FCV-43-64, STM GEN BLDN NO 4 SAMP ISOL VLV	Note 2	Closed	N
		2-FCV-77-10, RCDT PUMP DISCH FLOW CONTROL VALVE	Note 2	Closed	N
		2-FCV-77-17, RCDT TO GA FLOW CONTROL	Note 2	Closed	N
		2-FCV-77-19, RCDT TO VENT HDR FLOW CONTROL	Note 2	Closed	N
		2-FCV-77-20, RCDT N2 SUPPLY FLOW CONTROL	Note 2	Closed	N
		2-FCV-77-128, REAC BLDG SUMP DISCH FLOW CONTROL	Note 2	Closed	N
		2-FCV-81-12, PW RCS PRESS RELF TNK & RCP STANDPIPES	Note 2	Closed	N
	K605-B	2-FCV-1-7, SG 1 BLOWDOWN FLOW CONTROL VLV	Note 2	Closed	N
		2-FCV-1-25, SG 3 BLOWDOWN FLOW CONTROL VLV	Note 2	Closed	N
		2-FCV-43-2, PRESSURIZER GAS CNTMT ISOL VLV	Note 2	Closed	N
		2-FCV-43-11, PRESSURIZER LIQ CNTMT ISOL VLV	Note 2	Closed	N
		2-FCV-43-22, RCS HOT LEGS HDR CNTMT ISOL VLV	Note 2	Closed	N
		2-FCV-43-34, ACCUM TK HDR CNTMT ISOL VLV	Note 2	Closed	N

Table 1
Component Actuation During the June 5, 2016, automatic SI

SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.6.3.6	K605-B	2-FCV-43-54D, STEAM GEN 1 DRUM/BLDN SAMPLE ISOL VLV	Note 2	Closed	N
		2-FCV-43-56D, STEAM GEN 2 DRUM/BLDN SAMPLE ISOL VLV	Note 2	Closed	N
		2-FCV-43-59D, STEAM GEN 3 DRUM/BLDN SAMPLE ISOL VLV	Note 2	Closed	N
		2-FCV-43-63D, STEAM GEN 4 DRUM/BLDN SAMPLE ISOL VLV	Note 2	Closed	N
		2-FCV-77-9, RCDT PUMP DISCH FLOW CONTROL VALVE	Note 2	Closed	N
		2-FCV-77-16, RCDT TO GA FLOW CONTROL	Note 2	Closed	N
		2-FCV-77-18, RCDT TO VENT HDR FLOW CONTROL	Note 2	Closed	N
		2-FCV-77-127, REAC BLDG SUMP DISCH FLOW CONTROL	Note 2	Closed	N
		2-FCV-1-182, SG 2 BLOWDOWN ISOLATION VLV	Note 2	Closed	N
		2-FCV-1-184, SG 4 BLOWDOWN ISOLATION VLV	Note 2	Closed	N
	K606-A	2-FCV-63-64, SIS ACCUM TANK N2 HDR INLET VALVE	Note 2	Closed	N
		2-FCV-63-71, PRESSURIZER GAS CNTMT ISOL VLV	Note 2	Closed	N
		2-FCV-68-305, RCS FLOW CONT VLV WDS N2 MAN TO PRT	Note 2	Closed	N
		2-FCV-68-307, PRESSURIZER RELIEF TANK GAS ANALYZER SUPPLY	Note 2	Closed	N
	K606-B	2-FCV-63-84, SIS CHECK VLV LEAK TEST ISOL	Note 2	Closed	N
		2-FCV-68-308, RCS FLOW CONT VLV WDS GA TO PRT	Note 2	Closed	N
	K607-A	2-FCV-61-191, GLYCOL SUPPLY ISOLATION VALVE	Note 2	Closed	N
		2-FCV-61-193, GLYCOL RETURN ISOLATION VALVE	Note 2	Closed	N
		2-FCV-62-72, REGEN HT EXCH LETDOWN ISO VLV A	Closed	Closed	N
		2-FCV-62-73, REGEN HT EXCH LETDOWN ISO VLV B	Closed	Closed	N
		2-FCV-62-76 REGEN HT EXCH LETDOWN ISO VLV	Note 2	Closed	N
		2-FCV-63-185, RHR SUPPLY TEST LINE VALVE	Note 2	Closed	N

Table 1
Component Actuation During the June 5, 2016, automatic SI

SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.6.3.6	K607-B	2-FCV-61-192, GLYCOL SUPPLY ISOLATION VALVE	Note 2	Closed	N
		2-FCV-61-194, GLYCOL RETURN ISOLATION VALVE	Note 2	Closed	N
		2-FCV-62-77, REGEN HT EXCH LETDOWN ISO VLV	Open	Closed	Y
	K612-A	2-FCV-62-74, CVS LETDOWN ORIFICE C ISOLATION	Open	Closed	Y
		2-FCV-65-5, EGTS CNTMT ANN VAC SUCT ISOL	Note 2	Closed	N
		2-FCO-65-77, EGTS CNTMT ANN VAC FAN 2A SUCT ISOL	Note 2	Closed	N
	K612-B	2-FCV-63-23, COLD LEG ACCUMULATOR FILL FROM SIP 2A-A	Note 2	Closed	N
		2-FCO-65-74, EGTS CNTMT ANN VAC FAN 2B SUCT ISOL	Note 2	Closed	N
		2-FCV-65-4, EGTS CNTMT ANN VAC SUCT ISOL	Note 2	Closed	N
	K613-A	2-FCV-31-306, INCORE INSTR RM AHU 2A CW PMP ISOL	Note 2	Closed	N
		2-FCV-31-308, INCORE INSTR RM AHU 2A CWS ISOL	Note 2	Closed	N
		2-FCV-31-326, INCORE INSTR RM AHU 2B CWR ISOL	Note 2	Closed	N
		2-FCV-31-330, INCORE INSTR RM AHU 2B CWS ISOL	Note 2	Closed	N
	K613-B	2-FCV-31-305, INCORE INSTR RM AHU 2A CW PMP	Note 2	Closed	N
		2-FCV-31-309, INCORE INSTR RM AHU 2A CWS ISOL	Note 2	Closed	N
		2-FCV-31-327, INCORE INSTR RM AHU 2B CWR ISOL	Note 2	Closed	N
		2-FCV-31-329, INCORE INSTR RM AHU 2B CWS ISOL	Note 2	Closed	N
	K614-A	2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL	Open	Closed	Y
	K614-B	2-FCV-62-61, CVCS SEAL WATER RETURN HEADER ISOL	Open	Open	N

Table 1 Component Actuation During the June 5, 2016, automatic SI					
SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.6.3.6	K618-A	2-FCV-70-90, RCP THERM BAR RET CNTMT ISOL VLV	Open	N/A [3]	N/A
		2-FCV-70-92, RCP OIL CLR RET CNTMT ISOL VLV	Open	N/A [3]	N/A
		2-FCV-70-100, RC OIL CLR HDR CNTMT ISLN VLV	Note 2	N/A [3]	N/A
		2-FCV-70-133, RCP THRM BAR CONT ISOL VLV	Open	N/A [3]	N/A
	K618-B	2-FCV-70-87, RCP THERM BAR RET CNTMT ISOL VLV	Open	N/A [3]	N/A
		2-FCV-70-89, RCP OIL CLR RET CNTMT ISOL VLV	Open	N/A [3]	N/A
		2-FCV-70-134, RCP THRM BAR CONT ISOL VLV	Open	N/A [3]	N/A
		2-FCV-70-140 RC OIL CLR HDR CONT ISLN VLV	Open	N/A [3]	N/A
	K619-A	2-FCV-32-81 REACTOR BLDG UNIT 2 TRAIN A ISOL	Open	N/A [3]	N/A
	K619-B	2-FCV-32-103 REACTOR BLDG UNIT 2 TRAIN B ISOL	Open	N/A [3]	N/A
		2-FCV-32-111 REACTOR BLDG UNIT 2 NON-ESSEN ISOL TRAIN B	Note 2	N/A [3]	N/A
	K625-A	2-FCV-67-87 LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-95 LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-97 LOWER CNTMT 2C COOLER SUPPLY ISLN VLV IC	Note 2	N/A [3]	N/A
		2-FCV-67-99 LWR CNTMT 2B COOLERS SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-107 LWR CNTMT 2D COOLERS SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-130 UPPER CNTMT VENT CLR 2A SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-133 UPPER CNTMT VENT CLR 2C SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-295 UPPER CNTMT VENT CLR 2A ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-296 UPPER CNTMT VENT CLR 2C ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
	K625-B	2-FCV-67-83 LWR CNTMT 2A COOLERS SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-91 LOWER CNTMT 2C COOLER SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-103 LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-111 LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A

Table 1 Component Actuation During the June 5, 2016, automatic SI					
SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.6.3.6	K625-B	2-FCV-67-138 UPPER CNTMT VENT CLR 2B SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-141 UPPER CNTMT VENT CLR 2D SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-297 UPPER CNTMT VENT CLR 2B ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-298 UPPER CNTMT VENT CLR 2D ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
	K626-A	2-FCV-67-89 LOWER CNTMT A COOLER SUPPLY ISLN VALVE IC	Note 2	N/A [3]	N/A
		2-FCV-67-104 LWR CNTMT B CLRS DISCH ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-112 LWR CNTMT D CLRS DISCH ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-139 UPPER CNTMT VENT CLR B ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-142 UPPER CNTMT VENT CLR D ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A
	K626-B	2-FCV-67-88 LOWER CNTMT A CLRS DISCH ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-96 LOWER CNTMT C CLRS DISCH ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-105 LWR CNTMT B COOLERS SUPPLY ISLN VALVE IC	Note 2	N/A [3]	N/A
		2-FCV-67-113 LWR CNTMT D COOLERS SUPPLY ISLN VALVE IC	Note 2	N/A [3]	N/A
		2-FCV-67-131 UPPER CNTMT VENT CLR A ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-134 UPPER CNTMT VENT CLR C DISCH ISOL VLV	Open	N/A [3]	N/A
	K630-A	2-FCV-26-240 CONTAINMENT STANDPIPE ISOLATION VALVE	Note 2	Closed	N
		2-FCV-26-243 RCP SPRAY ISOLATION VALVE	Note 2	Closed	N
		2-FCV-61-96 FLOOR COOLANT GLYCOL ISOLATION VALVE	Note 2	Closed	N
		2-FCV-61-110 FLOOR COOLANT GLYCOL ISOLATION VALVE	Note 2	Closed	N
		2-FCV-70-143 ISOL VLV TO EXCESS LETDOWN HX	Closed	Closed	N
	K630-B	2-FCV-61-97 FLOOR COOLANT GLYCOL ISOLATION VALVE	Note 2	Closed	N
		2-FCV-61-122 FLOOR COOLANT GLYCOL ISOLATION VALVE	Note 2	Closed	N
		2-FCV-70-85 COMP COOLING EXCESS LETDOWN HX DISCHARGE	Closed	Closed	N

Table 1 Component Actuation During the June 5, 2016, automatic SI					
SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.6.3.6	K615-A	2-FCV-30-2 CONTAINMENT PURGE AIR SUPPLY FAN 2A DISCHARGE	Note 2	Closed	N
		2-FCV-30-5 CONTAINMENT PURGE AIR SUPPLY FAN 2B DISCHARGE	Note 2	Closed	N
		2-FCV-30-12 CNTMT ANNULUS PURGE SUPPLY	Note 2	Closed	N
		2-FCV-30-54 CNTMT ANNULUS PURGE EXHAUST	Note 2	Closed	N
		2-FCV-30-61 CNTMT PURGE AIR EXHAUST FAN 2A SUCTION	Note 2	Closed	N
		2-FCV-30-62 CNTMT PURGE AIR EXHAUST FAN 2B SUCTION	Note 2	Closed	N
	K615-B	2-FCV-30-2 CNTMT PURGE AIR SUPPLY FAN 2A DISCHARGE	Note 2	Closed	N
		2-FCV-30-5 CONTAINMENT PURGE AIR SUPPLY FAN 2B DISCHARGE	Note 2	Closed	N
		2-FCV-30-12 CNTMT ANNULUS PURGE SUPPLY	Note 2	Closed	N
		2-FCV-30-54 CNTMT ANNULUS PURGE EXHAUST	Note 2	Closed	N
		2-FCV-30-61 CNTMT PURGE AIR EXHAUST FAN 2A SUCTION	Note 2	Closed	N
		2-FCV-30-62 CNTMT PURGE AIR EXHAUST FAN 2B SUCTION	Note 2	Closed	N
	K622-A	2-FCV-30-7 UPPER COMPT PURGE ISOL VALVE	Note 2	Closed	N
		2-FCV-30-10 UPPER COMPT PURGE ISOL VALVE	Note 2	Closed	N
		2-FCV-30-14 LOWER COMPT PURGE ISOL VALVE	Note 2	Closed	N
		2-FCV-30-17 CNTMT LOWER COMPARTMENT PURGE SUPPLY	Note 2	Closed	N
		2-FCV-30-20 INCORE INSTR RM PURGE ISOL VALVE	Note 2	Closed	N
		2-FCV-30-40 CNTMT LOWER COMPARTMENT PURGE EXH PRESS RELIEF	Note 2	Closed	N
		2-FCV-30-51 CNTMT UPPER COMPARTMENT EXHAUST ISOLATION	Note 2	Closed	N
		2-FCV-30-52 CNTMT UPPER COMPARTMENT EXHAUST ISOLATION	Note 2	Closed	N
		2-FCV-30-56 CNTMT LOWER COMPARTMENT EXHAUST ISOLATION	Note 2	Closed	N
		2-FCV-30-59 CNTMT INSTRUMENT ROOM EXHAUST ISOLATION	Note 2	Closed	N
		2-FCV-90-107 CNTMT BLDG LOWER COMPT AIR RAD MON SUPPLY	Note 2	Closed	N
		2-FCV-90-111 CNTMT BLDG LOWER COMPT AIR RAD MON RETURN	Note 2	Closed	N

Table 1 Component Actuation During the June 5, 2016, automatic SI					
SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.6.3.6	K622-A	2-FCV-90-113 CNTMT BLDG UPPER COMPT AIR RAD MON SUPPLY	Note 2	Closed	N
		2-FCV-90-117 CNTMT BLDG UPPER COMPT AIR RAD MON RETURN	Note 2	Closed	N
	K622-B	2-FCV-30-8 UPPER COMPT PURGE ISOL VALVE	Note 2	Closed	N
		2-FCV-30-9 UPPER COMPT PURGE ISOL VALVE	Note 2	Closed	N
		2-FCV-30-15 LOWER COMPT PURGE ISOL VALVE	Note 2	Closed	N
		2-FCV-30-16 CNTMT LOWER COMPARTMENT PURGE SUPPLY	Note 2	Closed	N
		2-FCV-30-19 INCORE INSTR RM PURGE ISOL VALVE	Note 2	Closed	N
		2-FCV-30-37 CNTMT LOWER COMPARTMENT PURGE EXH PRESS RELIEF	Note 2	Closed	N
		2-FCV-30-50 CNTMT UPPER COMPARTMENT EXHAUST ISOLATION	Note 2	Closed	N
		2-FCV-30-53 CNTMT UPPER COMPARTMENT EXHAUST ISOLATION	Note 2	Closed	N
		2-FCV-30-57 CNTMT LOWER COMPARTMENT EXHAUST ISOLATION	Note 2	Closed	N
		2-FCV-30-58 CNTMT INSTRUMENT ROOM EXHAUST ISOLATION	Note 2	Closed	N
		2-FCV-90-108 CNTMT BLDG LOWER COMPT AIR RAD MON SUPPLY	Note 2	Closed	N
		2-FCV-90-109 CNTMT BLDG LOWER COMPT AIR RAD MON SUPPLY	Note 2	Closed	N
		2-FCV-90-110 CNTMT BLDG LOWER COMPT AIR RAD MON RETURN	Note 2	Closed	N
		2-FCV-90-114 CNTMT BLDG UPPER COMPT AIR RAD MON SUPPLY	Note 2	Closed	N
		2-FCV-90-115 CNTMT BLDG UPPER COMPT AIR RAD MON SUPPLY	Note 2	Closed	N
		2-FCV-90-116 CNTMT BLDG UPPER COMPT AIR RAD MON RETURN	Note 2	Closed	N
3.6.6.3	K644-A	2-FCV-72-2 CNTMT SPRAY PMP 2B-B DISCHARGE VLV	Closed	N/A (1)	N/A
	K644-B	2-FCV-72-39 CNTMT SPRAY PMP 2A-A DISCHARGE VLV	Closed	N/A (1)	N/A

Table 1 Component Actuation During the June 5, 2016, automatic SI					
SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.6.6.4	K643-A	2-PMP-72-27 CNTMT SPRAY PMP 2A-A	Stopped	N/A (1)	N/A
	K643-B	2-PMP-72-10 CNTMT SPRAY PMP 2B-B	Stopped	N/A (1)	N/A
3.6.9.3	K612-A	2-FCV-62-74 CVCS LETDOWN ORIFICE C ISOL	Open	Closed	Y
		2-FCV-65-5 EGTS CNTMT ANN VAC SUCT ISOL	Note 2	Closed	N
		2-FCO-65-77 EGTS CNTMT ANN VAC FAN 2A SUCT ISOL	Note 2	Closed	N
		2-FAN-65-77 EGTS ANN VAC FAN 2A-A	Note 2	Trip	N
		2-FC0-65-46 EGTS TO UNIT 2 SHIELD BLDG	Closed	Open	Y
		2-PCV-65-81 EGTS UNIT 2 SHIELD BLDG EXHAUST VENT ISOL	Closed	Open	Y
		2-PCV-65-86 EGTS CNTMT ANNULUS ISOL DMPR	Closed	Open	Y
	K612-B	2-FCV-65-4 EGTS CNTMT ANN VAC SUCT ISOL	Note 2	Closed	N
		2-FCO-65-74 EGTS CNTMT ANN VAC FAN 2B SUCT ISOL	Note 2	Closed	N
		2-FAN-65-74 EGTS CNTMT ANN VAC FAN 2B-B	Note 2	Trip	N
		2-FCO-65-45 EGTS TO UNIT 2 SHIELD BLDG	Open	Open	N
		2-PCV-65-83 EGTS UNIT 2 SHIELD BLDG EXHAUST VENT ISOL	Closed	Open	Y
		2-PCV-65-87 EGTS CNTMT ANNULUS ISOL	Closed	Open	Y
		2-FCV-63-23 COLD LEG ACCUMULATOR FILL FROM SIP 2A-A ISOL	Note 2	Closed	N
	K613-A	2-FCV-31-306 INCORE INSTR RM AHU 2A CW PMP 2A ISOL	Note 2	Closed	N
		2-FCV-31-308 INCORE INSTR RM AHU 2A CWS ISOL	Note 2	Closed	N
		2-FCV-31-326 INCORE INSTR RM AHU 2B CWR ISOL	Note 2	Closed	N
		2-FCV-31-330 INCORE INSTR RM AHU 2B CWS ISOL	Note 2	Closed	N
		2-FCO-65-9 EGTS TRAIN A UNIT 2 SUCT ISOL	Open	Open	N
		0-FAN-65-23 EGTS FAN A-A	Stopped	Running	Y

Table 1
Component Actuation During the June 5, 2016, automatic SI

SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.6.9.3	K613-B	2-FCO-65-29 EGTS TRAIN B UNIT 2 SUCT ISOL	Closed	Open	Y
		2-FAN-65-42 EGTS FAN 2B-B	Stopped	Running	Y
		2-FCV-31-305 INCORE INSTR RM AHU 2A CWR ISOL	Note 2	Closed	N
		2-FCV-31-309 INCORE INSTR RM AHU 2A CWS ISOL	Note 2	Closed	N
		2-FCV-31-327 INCORE INST RM AHU 2B CWR ISOL	Note 2	Closed	N
		2-FCV-31-329 INCORE INSTR RM AHU 2B CWR ISOL	Note 2	Closed	N
3.7.7.3	K618-A	2-FCV-70-90 RCP THERM BAR RET CNTMT ISOL VLV	Open	N/A (3)	N/A
		2-FCV-70-92 RCP OIL CLR RET CNTMT ISOL VLV	Open	N/A (3)	N/A
		2-FCV-70-100 RCP OIL CLR SUPPLY ISOL VLV	Note 2	N/A (3)	N/A
		2-FCV-70-133 RCP THERMAL BAR ISOL VLV	Open	N/A (3)	N/A
	K618-B	2-FCV-70-87 RCP THERM BAR RET CNTMT ISOL VLV	Open	N/A (3)	N/A
		2-FCV-70-89 RCP OIL CLR RET CNTMT ISOL VLV	Open	N/A (3)	N/A
		2-FCV-70-134 RCP THERM BAR ISOL VLV	Open	N/A (3)	N/A
		2-FCV-70-140 RCP OIL CLR SUPPLY ISOL VLV	Open	N/A (3)	N/A
3.7.7.4	K608-A	2-PMP-70-59 CCS PMP 2A-A	Running	Running	N
		0-PMP-70-51-S, CCS PMP C-S	Running	Running	N
	K608-B	2-PMP-70-33 CCS PMP 2B-B	Stopped	Running	Y
		0-PMP-70-51-S, CCS PMP C-S	Running	Running	N

Table 1 Component Actuation During the June 5, 2016, automatic SI					
SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.7.8.2	K625-A	2-FCV-67-87 LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-95 LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-97 LOWER CNTMT 2C COOLER SUPPLY ISLN VLV IC	Note 2	N/A [3]	N/A
		2-FCV-67-99 LWR CNTMT 2B COOLERS SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-107 LWR CNTMT 2D COOLERS SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-130 UPPER CNTMT VENT CLR 2A SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-133 UPPER CNTMT VENT CLR 2C SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-295 UPPER CNTMT VENT CLR 2A ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-296 UPPER CNTMT VENT CLR 2C ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
	K625-B	2-FCV-67-83 LWR CNTMT 2A COOLERS SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-91 LOWER CNTMT 2C COOLER SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-103 LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-111 LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-138 UPPER CNTMT VENT CLR 2B SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-141 UPPER CNTMT VENT CLR 2D SUPPLY ISOL VLV	Open	N/A [3]	N/A
		2-FCV-67-297 UPPER CNTMT VENT CLR 2B ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-298 UPPER CNTMT VENT CLR 2D ISOL VLV INSIDE CNTMT	Open	N/A [3]	N/A
	K626-A	2-FCV-67-89 LOWER CNTMT A COOLER SUPPLY ISLN VALVE IC	Note 2	N/A [3]	N/A
		2-FCV-67-104 LWR CNTMT B CLRS DISCH ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-112 LWR CNTMT D CLRS DISCH ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-139 UPPER CNTMT VENT CLR B ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A
		2-FCV-67-142 UPPER CNTMT VENT CLR D ISOL VLV OUTSIDE CNTMT	Open	N/A [3]	N/A

Table 1 Component Actuation During the June 5, 2016, automatic SI					
SR	K Relay	Actuated Component	Pre Auto SI State	SI Actuation State	Validated Change of State
3.7.8.2	K626-B	2-FCV-67-88 LOWER CNTMT A CLRS DISCH ISOL VLV OUTSIDE CNTMT	Open	N/A (3)	N/A
		2-FCV-67-96 LOWER CNTMT C CLRS DISCH ISOL VLV OUTSIDE CNTMT	Open	N/A (3)	N/A
		2-FCV-67-105 LWR CNTMT B COOLERS SUPPLY ISLN VALVE IC	Note 2	N/A (3)	N/A
		2-FCV-67-113 LWR CNTMT D COOLERS SUPPLY ISLN VALVE IC	Note 2	N/A (3)	N/A
		2-FCV-67-131 UPPER CNTMT VENT CLR A ISOL VLV OUTSIDE CNTMT	Open	N/A (3)	N/A
		2-FCV-67-134 UPPER CNTMT VENT CLR C DISCH ISOL VLV	Open	N/A (3)	N/A
3.7.8.3	K611-A	0-PMP-67-28, ERCW PMP A-A	Running	Running(4)	N
		0-PMP-67-32, ERCW PMP B-A	Running	Running(4)	N
		0-PMP-67-36, ERCW PMP C-A	Stopped	Running(4)	Y
		0-PMP-67-40, ERCW PMP D-A	Stopped	Stopped(4)	N
	K611-B	0-PMP-67-47, ERCW PMP E-B	Running	Running(4)	N
		0-PMP-67-51, ERCW PMP F-B	Stopped	Stopped(4)	N
		0-PMP-67-55, ERCW PMP G-B	Stopped	Stopped(4)	N
		0-PMP-67-59, ERCW PMP H-B	Running	Running(4)	N

Notes

1. Not actuated by an auto SI signal
2. Pre Auto SI or Post-Auto SI State could not be verified
3. This is a CNTMT Isol Phase B relay and does not actuate on an auto SI signal
4. Dependent on Handswitch Alignment

Table 2 Dates when SR 3.3.2.5 was Last Performed					
Functions	SIs	Title	Unit	Dates Performed	Acceptance Criteria Satisfied?
1.b 2.b 3.a.2 3.b.2 4.b 5.a 6.a 7.a	1-SI-99-300-A	Engineered Safety Feature Actuation System Slave Relay Go Test Train A	1	3/26/17	Yes
				9/29/15	Yes
				3/30/14	Yes
				9/21/12	Yes
	2-SI-99-300-A		2	9/16/15	Yes
	1-SI-99-300-B	Engineered Safety Feature Actuation System Slave Relay Go Test Train B	1	3/29/17	Yes
				9/23/15	Yes
				3/27/14	Yes
				9/16/12	Yes
	2-SI-99-300-B		2	9/06/15	Yes
1.b 3.a.2 3.b.2 4.b 5.a	1-SI-99-301-A	Engineered Safety Features Actuation System Slave Relay Block Test Train A	1	3/07/17	Yes
				9/19/15	Yes
				3/23/14	Yes
				9/09/12	Yes
	2-SI-99-301-A		2	10/04/15	Yes
	1-SI-99-301-B	Engineered Safety Features Actuation System Slave Relay Block Test Train B	1	3/16/17	Yes
				9/20/15	Yes
				3/22/14	Yes
				9/09/12	Yes
	2-SI-99-301-B		2	10/04/15	Yes

Table 2 Dates when SR 3.3.2.5 was Last Performed					
Functions	SIs	Title	Unit	Dates Performed	Acceptance Criteria Satisfied?
6.a	1-SI-99-633-A	Response Time Test - Auxiliary Feedwater Slave Relay K633 - Train A	1	4/20/17	Yes
				4/23/14	Yes
				5/09/11	Yes
				3/15/08	Yes
	2-SI-99-633-A		2	2/28/16	Yes
	1-SI-99-633-B	Response Time Test - Auxiliary Feedwater Slave Relay K633 - Train B	1	10/17/15	Yes
				10/13/12	Yes
				10/15/09	Yes
	2-SI-99-633-B		2	2/23/16	Yes
6.a	1-SI-99-634-A	Response Time Test - Auxiliary Feedwater Slave Relay K634 - Train A	1	4/30/14	Yes
				5/18/11	Yes
				5/23/08	Yes
	2-SI-99-634-A		2	4/10/16	Yes
	1-SI-99-634-B	Response Time Test - Auxiliary Feedwater Slave Relay K634 - Train B	1	10/17/15	Yes
				10/25/12	Yes
				10/08/09	Yes
	2-SI-99-634-B		2	4/11/16	Yes

Table 2 Dates when SR 3.3.2.5 was Last Performed					
Functions	SIs	Title	Unit	Dates Performed	Acceptance Criteria Satisfied?
2.b	1-SI-99-644-A	Response Time Test - Containment Spray Slave Relay K644 - Train A	1	4/17/17	Yes
				9/20/15	Yes
				5/10/11	Yes
	2-SI-99-644-A		2	10/19/15	Yes
	1-SI-99-644-B	Response Time Test - Containment Spray Slave Relay K644 - Train B	1	10/03/15	Yes
				5/11/11	Yes
	2-SI-99-644-B		2	10/18/15	Yes
3.a.2	0-SI-30-7-A	Auxiliary Building Gas Treatment System Pressure Test Train A	0	1/14/16	Yes
				6/10/14	Yes
				7/10/13	Yes
				1/9/12	Yes
3.a.2	0-SI-30-7-B	Auxiliary Building Gas Treatment System Pressure Test Train B	0	3/13/17	Yes
				6/17/15	Yes
				12/16/14	Yes
				9/05/13	Yes

Table 3 Dates when SR 3.3.2.7 was Last Performed					
Function	SIs	Title	Unit	Date Performed	Acceptance Criteria Satisfied?
1.b 3.a.2	0-SI-82-3	18 Month Loss Of Offsite Power With Safety Injection - DG 1A-A	0	3/18/17	No, 1A Incore Instrument Room Chiller was not tested per 0-SI-82-3 based on previous equipment failures. The following components were not tested per 0-SI-82-3: • 1-FCV-31-306 • 1-FCV-31-308 • 1-BKR-31-303B • 1-AHU-31-265 However, these discrepancies did not affect the performance of the associated functions for this SR. Retested satisfactorily under 1-SI-99-303-A.
				9/07/15	Yes
				3/22/14	Yes
				9/10/12	No, received dual indication on 1-FCV-81-12. Retested satisfactorily under 1-SI-99-303-A.

Table 3 Dates when SR 3.3.2.7 was Last Performed					
Function	SIs	Title	Unit	Date Performed	Acceptance Criteria Satisfied?
1.b 3.a.2	0-SI-82-4	18 Month Loss Of Offsite Power With Safety Injection - DG 1B-B	0	4/09/17	Yes
				10/06/15	Yes
				4/12/14	Yes
				4/30/11	Yes
	0-SI-82-5	18 Month Loss Of Offsite Power With Safety Injection - DG 2A-A	0	9/16/15	Yes
				4/03/14	Yes
				10/07/12	Yes
				5/07/11	Yes
	0-SI-82-6	18 Month Loss Of Offsite Power With Safety Injection - DG 2B-B	0	9/07/15	Yes
				9/15/14	Yes
				10/09/12	Yes
				5/04/11	Yes
1.b 3.a.2 3.b.2	1-SI-99-300-A	Engineered Safety Feature Actuation System Slave Relay Go Test Train A	1	3/26/17	Yes
				9/29/15	Yes
				3/30/14	Yes
				9/21/12	Yes
	2-SI-99-300-A		2	9/16/15	Yes
	1-SI-99-300-B	Engineered Safety Feature Actuation System Slave Relay Go Test Train B	1	3/29/17	Yes
				9/23/15	Yes
				3/27/14	Yes
				9/16/12	Yes
	2-SI-99-300-B		2	9/06/15	Yes

Table 3 Dates when SR 3.3.2.7 was Last Performed					
Function	SIs	Title	Unit	Date Performed	Acceptance Criteria Satisfied?
1.b	1-SI-99-603-A	Response Time Test - Safety Injection Slave Relay K603 - Train A	1	4/08/17	Yes
				4/11/14	Yes
				4/28/11	Yes
				3/06/08	Yes
	2-SI-99-603-A		2	1/31/16	No, relay K603-A failed due to unlatching. Retested and all acceptance criteria met.
	1-SI-99-603-B	Response Time Test - Safety Injection Slave Relay K603 - Train B	1	10/06/15	Yes
				9/27/12	Yes
				10/05/09	Yes
	2-SI-99-603-B		2	2/15/16	Yes

Table 4 WBN Unit 1 Calibration Data for SR 3.3.3.2, Table 3.3.3-1, Function 5			
SIs	Title	Date Performed	As-Found Same as As-Left?
1-SI-68-76	18 Month Channel Calibration RCS Loop 1 Wide Range Pressure Channel I, Loop 1-LPP-68-63 (P-406)	1/08/17	Yes
		7/12/15	Yes
1-SI-68-77	18 Month Channel Calibration RCS Loop 3 Wide Range Pressure Channel II Loop 2-LPP-68-64 (P-407)	5/19/16	Yes
		11/20/14	Yes
1-SI-68-78	18 Month Channel Calibration RCS Loop 4 Wide Range Pressure Channel IV Loop 2-LPP-68-70 (P-408)	8/31/16	Yes
		3/06/15	Yes
1-SI-68-81	Offline Channel Calibration of RVLIS Transmitters and RCS Wide Range Pressure Transmitters Trains A and B	3/22/17	Yes
		9/28/15	Yes
1-SI-68-87	Offline Calibration of RCS Loop 4 Wide Range Pressure Components: 1-PT-68-68, 1-PT-68-70, and 1-PS-68-68A	9/30/15	Yes
		4/11/14	Yes

Table 5 WBN Unit 1 Calibration Data for SR 3.3.3.2, Table 3.3.3-1, Function 6			
SIs	Title	Date Performed	As-Found Same as As-Left?
1-SI-68-1	18 Month Channel Calibration RCS Loop 1 Delta T/Tavg Ch I Loop 1-LPT-68-2 (T-411/412)	4/10/17	Yes
		10/11/15	Yes
1-SI-68-2	18 Month Channel Calibration RCS Loop 2 Delta T/Tavg Ch II Loop 1-LPT-68-25 (T-421/422)	4/12/17	Yes
		10/12/15	Yes
1-SI-68-71	Month Channel Calibration RCS Loop 4 Wide Range Hot Leg Temperature Loop 1-LPT-68-65 (T-443a)	11/1/15	Yes
		4/12/14	Yes
1-SI-68-76	18 Month Channel Calibration RCS Loop 1 Wide Range Pressure Channel I, Loop 1-LPP-68-63 (P-406)	1/8/17	Yes
		7/12/15	Yes
1-SI-68-77	18 Month Channel Calibration RCS Loop 3 Wide Range Pressure Channel II, Loop 2-LPP-68-64 (P-407)	5/19/16	Yes
		11/20/14	Yes
1-SI-68-80-A	Channel Calibration of Train A Inadequate Core Cooling Monitoring System	12/05/16	Yes
		3/16/15	Yes
1-SI-68-80-B	Channel Calibration of Train B Inadequate Core Cooling Monitoring System	8/18/15	Yes
		12/14/14	Yes
1-SI-68-81	Offline Channel Calibration of RVLIS Transmitters and RCS Wide Range Pressure Transmitters Trains A and B	3/22/17	Yes
		9/28/15	Yes

Table 6 Dates of Performance for Channel Check Data for SR 3.3.3.1, Table 3.3.3-1, Functions 5 and 6	
Unit 1	Unit 2
5/13/17	2/25/17
4/24/17	1/27/17
3/11/17	12/23/16
2/11/17	11/18/16
1/14/17	10/22/16
12/12/16	9/23/16
11/12/16	8/19/16
10/15/16	7/22/16
9/09/16	6/25/16
8/14/16	5/28/16
7/16/16	5/01/16
6/11/16	3/28/16
5/14/16	2/17/16
4/16/16	1/16/16
3/12/16	12/11/15
2/14/16	
1/16/16	
12/11/15	
11/10/15	
10/18/15	
9/11/15	
8/14/15	
7/02/15	
6/13/15	
5/16/15	

Table 7 WBN Unit 2 Calibration Data for SR 3.3.3.2, Table 3.3.3-1, Function 5			
SIs	Title	Date Performed	As-Found Same as As-Left?
2-SI-68-77	18 Month Channel Calibration RCS Loop 3 Wide Range Pressure Channel II Loop 2-LPP-68-64 (P-407)	9/14/16	Yes
2-SI-68-78	18 Month Channel Calibration RCS Loop 4 Wide Range Pressure Channel IV Loop 2-LPP-68-70 (P-408)	8/02/16	Yes
2-SI-68-87	Offline Calibration of RCS Loop 4 Wide Range Pressure Components: 2-PT-68-68, 2-PT-68-70 & 2-PS-68-68A	10/21/15	No, but all the as-found and as-left readings were within the tolerance criteria.

Table 8 WBN Unit 2 Calibration Data for SR 3.3.3.2, Table 3.3.3-1, Function 6			
SIs	Title	Date Performed	As-Found Same as As-Left?
2-SI-68-1	18 Month Channel Calibration RCS Loop 1 Delta T/Tavg CH I Loop 2-LPT-68-2 (T-411/412)	11/09/15	Yes
2-SI-68-2	18 Month Channel Calibration RCS Loop 2 Delta T/Tavg CH II Loop 2_LPT-68-25 (T-421/422)	12/01/15	Yes
2-SI-68-40	18 Month Reactor Coolant Pump 1 Undervoltage Channel Calibration	1/23/17	No, but all the as-found and as-left readings were within the tolerance criteria.
		11/14/15	No, but all the as-found and as-left readings were within the tolerance criteria.
2-SI-68-41	18 Month Reactor Coolant Pump 2 Undervoltage Channel Calibration	2/02/17	No, but all the as-found and as-left readings were within the tolerance criteria.
		11/05/15	No, but all the as-found and as-left readings were within the tolerance criteria.

Table 8 WBN Unit 2 Calibration Data for SR 3.3.3.2, Table 3.3.3-1, Function 6			
SIs	Title	Date Performed	As-Found Same as As-Left?
2-SI-68-42	18 Month Reactor Coolant Pump 3 Undervoltage Channel Calibration	02/21/17	Yes
		11/05/15	Yes
2-SI-68-43	18 Month Reactor Coolant Pump 4 Undervoltage Channel Calibration	11/05/15	Yes
2-SI-68-68	18 Month Channel Calibration RCS Loop 1 Wide Range Hot Leg Temperature Loop 2-LPT-68-1 (T-413A)	9/25/15	Yes
2-SI-68-69	18 Month Channel Calibration RCS Loop 2 Wide Range Hot Leg Temperature Loop 2-LPT-68-24 (T-423A)	9/25/15	Yes
2-SI-68-70	18 Month Channel Calibration RCS Loop 3 Wide Range Hot Leg Temperature Loop 2-LPT-68-43 (T-433A)	9/24/15	Yes
2-SI-68-71	18 Month Channel Calibration RCS Loop 4 Wide Range Hot Leg Temperature Loop 2-LPT-68-65 (T-443A)	9/24/15	Yes
2-SI-68-77	18 Month Channel Calibration RCS Loop 3 Wide Range Pressure Channel II Loop 2-LPP-68-64 (P-407)	9/14/16	Yes

Table 9 WBN Unit 1 Calibration Data for SR 3.4.12.8			
SIs	Title	Date Performed	As-Found Same as As-Left?
1-SI-68-68	18 Month Channel Calibration RCS Loop 1 Wide Range Hot Leg Temperature Loop 1- LPT-68-1 (T-413A)	1/12/17	Yes
		7/13/15	Yes
		4/03/14	Yes
		7/16/12	Yes
1-SI-68-69	18 Month Channel Calibration RCS Loop 2 Wide Range Hot Leg Temperature Loop 1-LPT-68-24 (T-423A)	7/10/16	Yes
		11/12/14	Yes
		5/13/13	Yes
		10/20/11	Yes
1-SI-68-70	18 Month Channel Calibration RCS Loop 3 Wide Range Hot Leg Temperature Loop 1-LPT-68-43 (T-433A)	11/14/16	Yes
		5/19/15	Yes
		4/11/14	Yes
		11/25/13	Yes
1-SI-68-71	18 Month Channel Calibration RCS Loop 4 Wide Range Hot Leg Temperature Loop 1-LPT-68-65 (T-443A)	11/18/15	Yes
		04/12/14	Yes
		02/27/13	Yes
		07/01/11	No, but all the as-found and as-left readings were within the tolerance criteria.
1-SI-68-72	18 Month Channel Calibration RCS Loop 1 WR CL Temperature Loop 1-LPT-68-18 (T-413B)	1/13/16	Yes
		4/11/14	Yes
		1/14/13	Yes
		7/18/11	Yes
1-SI-68-73	18 Month Channel Calibration RCS Loop 2 WR Cold Leg Temperature Loop 1-LPT-68-41 (T-423B)	4/14/16	Yes
		10/17/14	Yes
		4/12/14	Yes
		4/17/13	Yes
1-SI-68-74	18 Month Channel Calibration RCS Loop 3 WR CL Temperature Loop 1-LPT-68-60 (T-433B)	11/18/15	Yes
		10/20/14	Yes
		4/12/14	Yes
		5/02/13	Yes
1-SI-68-75	18 Month Channel Calibration RCS Loop 4 WR CL Temperature Loop 1-LPT-68-83 (T-443B)	11/20/15	Yes
		5/22/14	Yes
		4/12/14	Yes
		2/28/13	Yes

Table 9 WBN Unit 1 Calibration Data for SR 3.4.12.8			
SIs	Title	Date Performed	As-Found Same as As-Left?
1-SI-68-84	18 Month Channel Calibration RCS Loop 4 WR PRESS CH III Loop 1-LPP-68-66 (P-403)	3/30/17	No, but all the as-found and as-left readings were within the tolerance criteria.
		1/25/17	Yes
		9/29/15	Yes
		7/27/15	Yes
1-SI-68-85	18 Month Channel Calibration RCS Loop 4 WR PRESS CH II Loop 1-LPP-68-68 (P-405)	5/18/16	Yes
		11/21/14	Yes
		04/12/14	Yes
		5/31/13	Yes
1-SI-68-87	Offline Calibration of RCS Loop 4 Wide Range Pressure Components: 1-PT-68-68, 1-PT-68-70, and 1-PS-68-68A	9/30/15	Yes
		4/11/14	Yes
		9/23/12	Yes
		4/24/11	Yes