NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

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TITLE (4)

Technical Specification Surveillance Requirement Implementation Deficiencies

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
11	14	95	95	-- 033 --	05	4	29	96		05000
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)					
POWER LEVEL (10)	0	20.2201(b)	20.2203(a)(2)(v)	X	50.73(a)(2)(i)(B)		50.73(a)(2)(viii)
		20.2203(a)(1)	20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)	X	50.73(a)(2)(iv)		OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
James Priest, Licensing and Regulation	(609) 339-5434

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
D	CC	V	L200	Y						

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

LER 95-033-00 described two events that occurred due to identification of a Technical Specification (TS) surveillance test inadequacy. On 11/14/95, the Technical Specification Surveillance Improvement Program (TSSIP) team determined that the undervoltage auxiliary relays were not adequately tested in accordance with the LOGIC SYSTEM FUNCTIONAL TEST requirements. As stated in LER 95-033-01, supplements would be transmitted to document additional findings of the TSSIP team. On 3/29/96, the TSSIP team determined that Channel Functional Tests and Channel Calibrations for the Average Power Range Monitors (APRMs), required by TS Tables 4.3.1.1-1.2.a and 4.3.6-1.2.d, have not been performed correctly. This supplement provides the details of that event, which is being reported (similar to the events in the prior supplements) under the provisions of 10CFR50.73(a)(2)(i)(B). This condition has existed due to ineffective reviews of procedures that implement TS requirements. Corrective actions include a comprehensive review of procedures implementing TS surveillance requirements and surveillance test procedure revisions.

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PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor (BWR/4)

Safety Auxiliaries Cooling System (SACS) - EIIS Identifier {CC}
Reactor Water Cleanup System (RWCU) - EIIS Identifier {CE}
4.16 KVAC - EIIS Identifier {EB}
Emergency Diesel Generator - EIIS Identifier {EK}
High Pressure Coolant Injection System - EIIS Identifier {BJ}
Average Power Range Monitor System - EIIS Identifier {IG}

IDENTIFICATION OF OCCURRENCE

Discovery dates: 11/14/95, 12/12/95, 1/4/96, 2/26/96, 3/25/96 and 3/29/96
ESF actuation date: 11/16/95
Problem Reports: 951114174, 951116123, 951212158, 960104265, 960226156, 960322230 and 960326238

CONDITIONS PRIOR TO OCCURRENCE

For the events in this LER the plant was in various operational conditions.

DESCRIPTION OF OCCURRENCE

LER 95-033-00 described two events that occurred due to identification of a Technical Specification (TS) Surveillance Test inadequacy. This supplement rewrites the original LER to describe an additional occurrence of a TS surveillance implementation deficiency identified during the Technical Specification Surveillance Improvement Program (TSSIP) review.

On November 14, 1995, during the TSSIP review of TS 3.3.3, "Emergency Core Cooling System Actuation Instrumentation", it was determined that the undervoltage auxiliary relays were not adequately tested in accordance with the LOGIC SYSTEM FUNCTIONAL TEST (LSFT) requirements of TS 4.3.3.2. As a result, the vital bus undervoltage relays were declared inoperable, and a TS Action Statement was entered for the failure to perform the appropriate surveillance testing.

The surveillance test was revised to address the concerns that TSSIP identified. On November 16, 1995, during the performance of the revised surveillance on the 'A' 4 kV vital bus, a bus transfer occurred at 0521. The 'A' Loss of Offsite Power (LOP) Sequencer initiated per plant design. A four-hour report was made to the NRC at 0841 in accordance with 10CFR50.72(b)(2)(ii).

DESCRIPTION OF OCCURRENCE (Continued)

On December 12, 1995, the TSSIP team determined that channel calibrations for the Reactor Water Cleanup System (RWCU) instrumentation, required by TS Table 3.3.2-1, were not being performed appropriately. Specifically, the RWCU ambient temperature instrumentation and differential temperature instrumentation channel calibrations have not included a sensor calibration as specified in TS Definition 1.4, CHANNEL CALIBRATION.

The RWCU instrumentation was not required to be operable at the time of discovery of the deficient surveillances and no TS Actions were required to be taken. However, this condition has existed since plant startup and TS Actions were not previously implemented as required by Table 3.3.2-1. Therefore, this condition is being reported under the provisions of 10CFR50.73(a)(2)(i)(B).

On January 4, 1996, the TSSIP team determined that the SACS heat exchanger inlet valves EG-HV-2491 A&B and EG-HV-2494 A&B have not been tested in accordance with the requirements of TS surveillance requirement 4.7.1.1.b.1. This surveillance requirement specifies that at least once per 18 months, during shutdown, these valves actuate to their correct position on the appropriate test signal (i.e., a SACS pump start signal).

At 1719 hours on January 4, 1996, the SACS heat exchanger inlet valves were declared inoperable and administratively controlled to ensure performance of the valves safety function.

On February 26, 1996, the TSSIP team determined that several HPCI system valves have not been periodically tested in accordance with TS surveillance requirement 4.5.1.c.2.b. This surveillance requirement states that, "At least once per 18 months, verify that the suction is automatically transferred from the condensate storage tank to the suppression chamber on a condensate storage tank water level-low signal and on a suppression chamber-water level high signal." Specifically TSSIP determined that: 1) the HPCI system suppression pool suction valve (BJ-HV-F042) has not been verified to open on a suppression chamber-water level high signal; 2) the HPCI system condensate storage tank (CST) suction valve (BJ-HV-F004) has not been verified to close on a suppression chamber-water level high signal; and 3) the HPCI full flow test line valve (BJ-HV-F011) has not been verified to close on a suppression chamber-water level high signal. Since Hope Creek was in an Operational Condition where HPCI was not required to be operable, administrative controls were used to ensure that the valves were properly tested in accordance with the TS requirements.

On March 25, 1996, the TSSIP team determined that certain primary containment penetration test and drain valves were not periodically verified to be closed in accordance with the requirements of TS 4.6.1.1.b.

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DESCRIPTION OF OCCURRENCE (Continued)

This surveillance requirement states that, "At least once per 31 days (verify) that all primary containment penetrations not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves...".

Specifically, TSSIP determined that several test and drain valves were omitted from the procedure that verifies primary containment integrity for TS 4.6.1.1.b. The valves were verified to be in their proper closed position and no additional TS actions were warranted. The procedure that verifies primary containment integrity for TS 4.6.1.1.b was revised to incorporate the excluded valves. A review of all primary containment penetrations is on-going to ensure all appropriate TS 4.6.1.1.b components are identified.

On March 29, 1996, the TSSIP team determined that the Average Power Range Monitoring (APRM) system has not been appropriately tested in accordance with the Reactor Protection System Instrumentation TS Table 4.3.1.1-1.2.a and the Control Rod Block Instrumentation TS Table 4.3.6-1.2.d. Surveillance requirement 4.3.1.1. states that, "Each reactor protection system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the Operational Conditions and at the frequencies show in Table 4.3.1.1-1." TS Table 4.3.1.1-1.2.a requires that the APRM Upscale, Setdown function undergo a Channel Functional Test once per week and a Channel Calibration once every six months during Operational Conditions 2 through 5 (STARTUP through REFUELING). Surveillance requirement 4.3.6 states that, "Each of the ... control rod block trip systems and instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the Operational Conditions and at the frequencies show in Table 4.3.6-1." TS Table 4.3.6-1.2.d requires that the APRM Neutron Flux - Upscale, Startup function undergo a Channel Functional Test quarterly and a Channel Calibration once every six months during Operational Conditions 2 and 5.

In the review of Hope Creek's implementation of these requirements, TSSIP determined that the Channel Calibrations (which are also credited to meet the Channel Functional Test requirements when they are performed) do not satisfy the requirements for a Channel Calibration or a Channel Functional Test as defined in the TS. Specifically, the surveillance test procedure for the APRM Channel Calibrations specifies the replacement of the K18 relays with test relays (required in order to perform the calibration during Operational Condition 1, POWER OPERATION). The removed K18 relays are re-installed at the conclusion of these tests; however, the K18 relays remain untested upon completion of the APRM Channel Calibration. Since the entire channel is not tested, the APRM Channel Functional Tests and Channel

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DESCRIPTION OF OCCURRENCE (Continued)

Calibrations have not been performed in accordance with the TS definitions 1.4 and 1.6.

Since Hope Creek discovered this deficiency in an Operational Condition (POWER OPERATION) where these APRM functions are not required to be operable, administrative controls were implemented to ensure that this instrumentation is properly tested in accordance with the TS requirements when entering the Operational Conditions where it is required.

ANALYSIS OF OCCURRENCE

As a Corrective Action from LER 95-017, a Technical Specification Surveillance Improvement Program (TSSIP) had been initiated. The charter of this project is to compare the TS surveillance requirements (with the exception of the Technical Specification 4.0.5 requirements) to the established surveillance procedures to verify that all requirements are met.

During TSSIP review of TS 3.3.3, "Emergency Core Cooling System Actuation Instrumentation", it was determined that individual contacts, and their configuration, from the undervoltage auxiliary relays and the degraded voltage relays were not tested in accordance with the LSFT requirements of TS 4.3.3.2. These contacts are for the load shedding of major 4.16 kV loads of the vital bus, incoming feeder breaker trips and lock outs, diesel generator start permits, and input to the load sequencer. The LSFT is required to be performed at least once per 18 months.

On November 15, 1995 both the degraded voltage and the bus undervoltage surveillance procedures were revised to incorporate the contacts and wiring that needed to be tested to satisfy the TS surveillance testing.

While testing the 'A' Vital Bus (10A401), a bus transfer occurred when the technician inadvertently touched an adjacent terminal. The bus transfer performed as designed. The 'A' Loss of Offsite Power (LOP) Sequencer initiated per plant design. The affected systems performed as expected and testing was terminated.

In December 1995, the TSSIP reviewed the implementing procedures for surveillance requirements associated with the RWCU system. The suction line (reactor coolant pressure boundary portion) of the RWCU system contains two motor operated isolation valves that automatically close in response to, among other signals, RWCU equipment compartment high ambient temperature and high differential temperature across the RWCU equipment compartment ventilation ducts. The event concerned the channel calibrations performed for these signals.

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ANALYSIS OF OCCURRENCE (Continued)

In the past, channel calibrations for instrument channels having resistance temperature detector (RTD) or thermocouple (T/C) sensors have been completed by performing an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. This test methodology is consistent with standard industry practice and has been considered to satisfy the surveillance requirements. However, the TSSIP team determined that these surveillance procedures were inconsistent with the literal requirements specified in TS 1.4, CHANNEL CALIBRATION, which requires calibration of the sensor regardless of whether the channel has an RTD or T/C sensor. Unlike other nuclear plant TS, there is no qualifying TS Table notes in the Hope Creek TS to exempt RTDs and T/Cs from the sensor calibration requirements.

The qualifying note was added to other plant's TS since calibration of RTDs and T/Cs cannot usually be performed in place. Removal and subsequent re-installation of the sensors introduces a potential for an undetectable failure and alarm considerations that outweighs the benefits of the sensor calibration. In lieu of sensor calibration, an inplace qualitative assessment of sensor behavior is performed. This position was adopted in NUREG-1433, "Improved Standard Technical Specifications for General Electric BWR/4 Plants."

Failure to appropriately perform the surveillances for the RWCU instrumentation requires entry into the TS Action Statement specified in Table 3.3.2-1. Since this did not occur, this event is reportable under the provisions of 10CFR50.73(a)(2)(i)(B).

Additional review performed by the TSSIP identified that this condition exists for all of the RTD and T/C sensors for instrumentation listed in TS Table 4.3.2.1-1, Isolation Actuation Instrumentation Surveillance Requirements, Table 4.3.7.4-1, Remote Shutdown Monitoring Instrumentation Surveillance Requirements and Table 4.3.7.5-1, Accident Monitoring Instrumentation Surveillance Requirements.

In January 1996, the TSSIP team determined that TS surveillance requirement 4.7.1.1.b.1 has not been performed for the SACS heat exchanger inlet valves. The SACS is designed to provide cooling water to the engineered safety feature equipment, including the residual heat removal heat exchangers, during normal operation, normal plant shutdown, loss of offsite power and loss of coolant accident conditions. Failure to demonstrate that the SACS heat exchanger inlet valve actuates to the open position upon its associated pump start signal at the specified TS frequency and Operational Condition requires entry into the SACS Action Statement for LCO 3.7.1.1, "with both SACS subsystems inoperable, immediately initiate measures to place the unit in at least Hot Shutdown within the next 12 hours." Since this did not occur, this event is reportable under the provisions of 10CFR50.73(a)(2)(i)(B).

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ANALYSIS OF OCCURRENCE (Continued)

On February 26, 1996, TSSIP determined that TS surveillance requirement 4.5.1.c.2.b had not been performed for several HPCI valves. Failure of the surveillance test procedures to require verification of the automatic alignment of the subject HPCI valves has existed since initial plant startup. HPCI is designed to provide make-up during a small break Loss of Coolant Accident (LOCA). HPCI may be used for reactor vessel inventory or pressure control whenever the reactor vessel is pressurized and isolated from the feedwater and/or main steam system. The HPCI pump normally draws water from the CST and discharges to the core spray and feedwater system piping. A full flow test line (back to the CST) is provided on the HPCI pump discharge line to allow testing of the system during normal plant operations without injecting water into the reactor vessel.

Surveillance test procedures have not required verification of the automatic actuation capability of the subject HPCI valves. Failure to perform these surveillances in accordance with the frequency specified in the TS requires actions to be taken to enter at least Hot Shutdown within 12 hours after the allowed outage time expires. Since these actions were not taken, a condition prohibited by the TS occurred, which is reportable under the provisions of 50.73(a)(2)(i)(B).

On March 26, 1996, TSSIP determined that TS surveillance requirement 4.6.1.1.b had not been performed for several primary containment penetration test and drain valves. Failure of the surveillance test procedure to verify all primary containment penetration valves has existed since initial plant start-up. The test and drain valves in question are closed valves, one inch or less in diameter, with the downstream piping capped closed. Since the surveillance test procedures have not required verification of all the primary containment penetration valves, the missed TS surveillance is reportable under the provisions 10 CFR 50.73 (a)(2)(i)(B).

On March 29, 1996, TSSIP determined that Channel Functional Tests and Channel Calibrations for the APRM Reactor Protection System and Control Rod Block Instrumentation functions have not been performed in accordance with the TS definitions 1.4 and 1.6. This condition has existed since initial plant startup whenever an APRM Channel Calibration was performed. The APRMs monitor and record average core power between 0 and 125% of rated power and initiate protective actions should core power exceed specified setpoints. The APRMs provide reference core power signals and rod motion permissive signals to the Rod Block Monitor and the Reactor Manual Control System. They also generate a scram signal in response to average neutron flux increases from abnormal operating transients.

ANALYSIS OF OCCURRENCE (Continued)

Since the APRMs have not been properly tested, the APRM channels could not be considered operable in Operational Conditions 2 through 5. When the Reactor Mode Switch has been in the STARTUP, SHUTDOWN or REFUELING positions, it was possible to have an undetected circuit failure where the K18 relay contacts remain closed regardless of Reactor Mode Switch position. In this situation, the APRM setdown setpoints would not be placed in effect; however, the probability of this type of failure occurring is very low since the Reactor Mode Switch contacts and K18 relays have been tested during performance of weekly surveillance testing and the K18 relay contacts open when the relay is de-energized (the fail safe position). With the K18 relay contacts closed, the flow biased trip would be in effect.

During the TSSIP investigation of this issue, deficiencies in the operating procedures were identified relative to scheduling of the APRM Channel Functional Tests. TSSIP determined that Hope Creek does not have sufficient procedural controls inplace to ensure that APRM Channel Functional Tests are completed within seven days prior to entry into other Operational Conditions from Operational Condition 1. This may have resulted in Operational Condition changes (plant scrams in particular) being made without the provisions of TS 3.0.4 and/or 4.0.4 being satisfied for the APRMs. This condition has also been determined to exist for the Intermediate Range Monitors (IRMs) and Source Range Monitors (SRMs). Failure to perform these required surveillances would have required (among other actions) that the Reactor Mode Switch be locked in the Shutdown position within 1 hour after leaving Operational Condition 1. On April 10, 1996, guidance was provided to the operating shift crews to ensure that the appropriate TS actions are taken for this instrumentation until the required surveillances are completed. Subsequent Channel Functional Tests for this instrumentation have demonstrated its operability in Operational Conditions 2 through 5, but may not have been performed within the time specified in the TS relative to Operational Condition changes.

APPARENT CAUSE OF OCCURRENCE

The cause for the failure to properly test the undervoltage relays is procedural inadequacies due to lack of knowledge of what constitutes a satisfactory LSFT. A contributing factor is the lack of guidance regarding the requirements of LSFTs.

The cause of the bus transfer was a test lead coming into contact with a terminal while the technician was attaching test equipment to a relay. Contributing factors were the decision to perform the test while the bus was energized and inadequate job planning in that the effects of conducting the test in an energized cubicle that was not designed for test leads were not completely analyzed.

APPARENT CAUSE OF OCCURRENCE (Continued)

The apparent cause of the RTD and T/C deficient channel calibrations was the ineffective review of surveillance procedures intended to satisfy Hope Creek's TSs during the near-term operating license stage in the 1980s. A contributing factor to this issue was plant staff habit intrusion. Hope Creek was performing the RTD and T/C sensor calibrations in accordance with current industry practice and it was assumed that the intent of the TS was being met. The same apparent cause is attributed to the deficient surveillances performed on the other Isolation Actuation, Remote Shutdown and Accident Monitoring Instrumentation.

The apparent cause of the missed surveillance tests of the SACS heat exchanger isolation valves is the same as that for the RTD and T/C deficient channel calibrations: ineffective procedures/inadequate review of surveillance activities intended to satisfy Hope Creek's TS during the near-term operating license stage in the 1980s.

The apparent cause of the missed surveillance tests of the subject HPCI valves is the same as that for the SACS heat exchanger isolation valves: inadequate review and approval of surveillance activities intended to satisfy Hope Creek's TS during the near-term operating license stage in the 1980s.

The apparent cause of the missed surveillance tests to verify all the primary containment penetration test and drain valves is inadequate review and approval of surveillance activities intended to satisfy TS.

The apparent cause of the missed and improper surveillance tests for the APRMs is attributed to the inadequate review and approval of surveillance activities intended to satisfy Hope Creek's TS during the near-term operating license stage in the 1980s.

SAFETY SIGNIFICANCE

Undervoltage relay testing:

Although the undervoltage and degraded voltage relays were declared inoperable due to nonperformance of a surveillance requirement, reasonable assurance existed that the Emergency Diesel Generators would start and energize the bus on a loss of power coincident with a Loss of Cooling Accident, and that all required ESF loads would sequence on the vital bus. This assurance is based on previous successful past performances of the integrated Emergency Diesel Generator test. Additionally, performance of testing on the 'A' and 'C' vital busses demonstrated compliance with the LSFT requirements, and showed all required relays and contacts to be operational.

SAFETY SIGNIFICANCE (Continued)

ESF actuation:

Due to the risks associated with the performance of this surveillance test (i.e., loss of the bus), Operations evaluated each load on the associated bus and provided recommendations regarding the use of redundant equipment to minimize the impact to plant operations. Therefore, the safety significance associated with this event was minimal.

RTD and T/C channel calibrations:

Performance of inplace qualitative assessments of RTD and T/C sensor behavior in lieu of sensor calibrations has been determined to be an acceptable method for demonstrating the operability of the isolation function. This method has been accepted by the NRC and described in NUREG 1433 for this instrumentation. Therefore, there is no safety significance of the failure to perform sensor calibrations as specified in the existing TS Definition 1.4 for the RTD and T/C sensors.

SACS heat exchanger inlet valve surveillances:

There was minimal safety significance for the inadequate SACS heat exchanger inlet valve surveillance test procedures. The basis for this minimal impact is: 1) the normal position of the heat exchanger inlet valves is open; 2) the SACS operating procedure directs the operator to verify that the valve opens following a pump start; 3) the valves fail as-is, which ensures a suction flow path for pumps previously inservice in the event of a design basis accident; and 4) indications available in the control room make the operator aware of a logic malfunction (causing the valve to not open as required), such that compensatory actions can be initiated.

HPCI valve surveillances:

The normal positions for the subject HPCI valves enable HPCI to function upon an initiation signal without these valves changing position. The position of these valves is verified twice daily. The capability for the HPCI system to automatically take suction from the suppression chamber on a suppression chamber-water level high signal has also been demonstrated within the past 18 months. LERs 95-014-00 and 95-020-01 were written to document two ESF actuations where the HPCI suction realigned to the suppression chamber from the CST on a suppression chamber-water level high signal.

In addition, surveillance testing satisfying the requirements of TS 4.5.1.c.2.b has been completed and demonstrated the capability of the

SAFETY SIGNIFICANCE (Continued)

subject valves to automatically actuate on a suppression chamber-water level high signal. Since the operability of the HPCI system was not affected with the subject valves in an off-normal position, there were no adverse safety consequences associated with this event.

Primary Containment penetration test and drain valves:

The normal position for the subject primary containment penetration test and drain valves is the closed position with the downstream piping isolated closed with a secured pipe cap. Positioning of plant components, including valves, is controlled by various administrative means. In this case, the test and drain valves are used as part of leak rate surveillance testing. At the completion of leak rate surveillance testing all repositioned valves are confirmed and independently verified to be left in their proper position. Because this testing is generally the only function of these valves, it is extremely unlikely that the valves would be mispositioned. All the valves have been field verified to be in the correct closed position. Since the valves were verified to be in the correct positions and administrative means were in place to control valve positioning, a past valve mispositioning error is unlikely. Therefore, the safety significance of this event is minimal.

APRM Surveillances:

As stated previously, the APRM channels were not previously demonstrated as operable in Operational Conditions 2 through 5. When the plant was in these conditions, it was possible to have an undetected failure where the K18 relay contacts remain closed regardless of Reactor Mode Switch position. In this situation, the APRM setdown setpoints would not be placed in effect; however, the Reactor Mode Switch contacts and K18 relays have been tested during performance of weekly surveillance testing and the K18 relay contacts open when the relay is de-energized (the fail safe position). In addition, the IRMs would have been able to provide signals to the Reactor Manual Control System to block rod motion and to the Reactor Protection System to initiate a scram during postulated conditions. Therefore, the safety significance of this event is minimal.

PREVIOUS OCCURRENCES

Failure to follow TS surveillance requirements has been documented in LERs 95-003-00 and supplements, 95-017-00, 95-034-00 and 95-035-00. LER 95-03-00 documented an event where operators performed a surveillance in an operational condition other than that specified by the TS, LER 95-017-00 documented an event where the emergency bus undervoltage logic circuitry was improperly tested, LER 95-034-00 documented a failure to perform Rod Sequence Control System surveillances when required and LER 95-035-00 documented the failure to perform Reactor Mode Switch, Source Range Monitor and Suppression Chamber Level surveillances properly.

In response to LER 95-017-00, the General Manger - Hope Creek Operations chartered the TSSIP to investigate, define, and resolve weaknesses in the TS Surveillance Program. The events described in this LER were identified as a result of the TSSIP.

CORRECTIVE ACTIONS

The implementing procedures for testing the bus undervoltage auxiliary contacts have been revised to defeat the undervoltage trip function during the performance of the test. The TSSIP group independently reviewed the procedures to ensure satisfactory compliance. This was completed prior to performance of the test procedures.

Logic System Functional Testing was performed on the 'B' and 'D' vital busses to demonstrate operability of the undervoltage and degraded voltage relays to satisfy requirements of Surveillance Requirement 4.3.3.1.

The TSSIP review will continue, with particular attention to the Logic System Functional Test Requirements in the other instrumentation specifications. The TSSIP will be completed by December 31, 1996.

The Technical Specification Matrix will be updated to reflect new procedures to comply with the LSFT requirement. This will be performed as the TSSIP identifies issues and will be completed by December 31, 1996.

Position papers were prepared to outline the proper test methodology and acceptance criteria for performance of technical specification surveillances, such as LSFT and Channel Functional Test requirements.

Training based on the site approved position papers will be prepared and incorporated into initial and continuing training programs for personnel responsible for the preparation, review, and approval of logic system surveillance procedures. The initial training will be conducted for licensed operators, system managers, procedure writers, and Station Qualified Reviewers, and will be completed by December 31, 1996.

CORRECTIVE ACTIONS (Continued)

Guidance was provided to the relay and controls technicians regarding the selection and use of M&TE (specifically M&TE with alligator clips).

The Controls Pre-Job Brief Checklist has been revised to ensure the proper use of M&TE.

The procedures used to conduct the LSFT surveillance will be revised to specify the specific alligator clip to be used. This revision will be completed prior to the next time these procedures are used.

A design change to install test points outside these cubicles will be implemented by the end of the next refueling outage.

The TS definition of CHANNEL CALIBRATION was revised, prior to entry into Operational Condition 3 following the sixth refueling outage, to permit inplace qualitative assessments of RTD and T/C sensors.

The SACS heat exchanger inlet valves have been administratively controlled to ensure performance of the valves' safety function. These valves were appropriately tested to satisfy the requirements of TS 4.7.1.1.b.1.

Permanent procedure revisions to appropriately test the SACS valves in accordance with the requirements of TS 4.7.1.1.b.1 will be completed prior to the performance of the next scheduled surveillance test.

The HPCI surveillance test procedure has been revised to appropriately test the subject HPCI valves and ensure operability of HPCI.

The subject HPCI valves have been properly tested and the requirements of TS 4.5.1.c.2.b have been satisfied.

The primary containment penetration test and drain valves were added to the surveillance procedure that verifies TS 4.6.1.1.b.

A review of all primary containment penetrations is on-going to ensure all appropriate TS 4.6.1.1.b components are identified. This review will be completed by August 31, 1996.

Administrative controls were placed in effect for the APRMs on March 29, 1996, to ensure that the instrumentation is appropriately tested prior to entering an Operational Condition where it is required.

On April 10, 1996, guidance was provided to operating shift crews to ensure that the appropriate TS actions are taken for the APRM, IRM and SRM instrumentation until the required surveillances are completed.

CORRECTIVE ACTIONS (Continued)

Surveillance test procedures for the quarterly and semi-annual APRM Channel Calibrations will be revised to ensure that they are performed in accordance with the TS definitions. These procedure revisions will be completed by June 30, 1996.

Operations procedures will be revised to incorporate the April 10, 1996, guidance on the performance of APRM, SRM and IRM surveillances. These procedure revisions will be completed by June 30, 1996.