CATEGORY 1

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FACIL:50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400
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DONAHUE,J.W. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 96-002-11:on 960709,failure to perform required surveillance testing during planned maint in Oct 1994 identified.Cause by personnel error.OST-1809 performed during refueling outage 6.W/960808 ltr.

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TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:Application for permit renewal filed. 05000400

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10CFR50.73

SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1
DOCKET NO. 50-400
LICENSE NO. NPF-63
LICENSEE EVENT REPORT 96-002-11

Sir or Madam:

In accordance with Title 10 to the Code of Federal Regulations, the enclosed revision to Licensee Event Report 96-002 is submitted. This revision reports additional Technical Specification Testing deficiencies identified during the on-going Technical Specification testing program review.

Sincerely,

J. W. Donahue
Director of Site Operations
Harris Plant

MV

Enclosure

c: Mr. J. B. Brady (NRC - HNP)
Mr. S. D. Ebneter (NRC - RII)
Mr. N. B. Le (NRC - PM/NRR)

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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)

Failure to properly perform Technical Specification surveillance testing.

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
7	9	96	96	-- 002 --	11	8	8	96		05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	1
POWER LEVEL (10)	100%

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

20.2201(b)	20.2203(a)(2)(v)	X 50.73(a)(2)(i)	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)	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)
Michael Verrilli Sr. Analyst - Licensing	(919) 362-2303

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

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X	YES (If yes, complete EXPECTED SUBMISSION DATE).	NO		9	12	96

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

On January 17, 1996, during a Technical Specification testing program review, a failure to perform required surveillance testing during a planned maintenance outage in October, 1994 was identified. Specifically, on October 30, 1994, the plant was shut down and taken to Mode-5 (Cold Shutdown). This outage exceeded 72 hours and per Technical Specification requirements Engineered Safety Feature slave relay testing was required. To satisfy this requirement OST-1083 and OST-1084 were satisfactorily completed, however the slave relay circuits for the CSIP Alternate Mini-Flow Isolation Valves, 1CS-746 and 1CS-752 were not tested due to an error that occurred during a procedure revision in June 1993.

In September 1992, a plant modification was completed on the Charging/Safety Injection Pump (CSIP) Alternate Mini-Flow System that necessitated revisions to Operations Surveillance Test procedures OST-1083 and OST-1084. These revisions were completed in June 1993 and removed the slave relay testing for CSIP Alternate Mini-Flow Isolation Valves (1CS-746 and 1CS-752) from OST-1083 and OST-1084 and transferred the testing requirement to procedure OST-1809. The cause of the Technical Specification violation was personnel error during the June 1993 procedure revision process for OST-1083 and OST-1084. OST-1809 was successfully performed during Refueling Outage 6 on September 8, 1995. This test verified the operability of these circuits, thus no immediate corrective action was required upon identification of the deficiency. Additional corrective actions included personnel counseling, appropriate procedure revisions and the continuation of an in-progress Technical Specification testing program review.

Three additional Technical Specification testing deficiencies (items 30, 31, & 32) were identified during the on-going comprehensive Technical Specification testing program review and are being reported by this supplemental report.

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TEXT *(If more space is required, use additional copies of NRC Form 366A)* (17)

EVENT DESCRIPTION:

On January 17, 1996, a failure to perform Technical Specification surveillance testing during an October 1994 planned maintenance outage was identified. The identification of this condition was a result of an on-going comprehensive Technical Specification testing program review that began in September 1995 following submittal of LER 95-07.

Specifically, on October 30, 1994, the plant was shut down and taken to Mode-5 (Cold Shutdown) for a planned maintenance outage. This outage exceeded 72 hours and therefore, per Technical Specification 4.3.2.1 requirements, Engineered Safety Feature (ESF) slave relay testing was required for the 13 ESF relays delineated in Table 4.3-2 that had not been tested in the last 92 days due to being at full power operations. To satisfy this requirement OST-1083 and OST-1084 were completed on November 3, 1994. However, the slave relay circuits for the CSIP Alternate Mini-Flow Isolation Valves (1CS-746 and 1CS-752, EIIS Code BQ-ISV) were not tested due to an error that occurred during procedure revisions performed in June 1993 on Engineered Safety Feature (ESF) 18-Month Slave Relay Operations Surveillance Test procedures OST-1083 and OST-1084. This error involved inappropriately removing the slave relay testing for the 1CS-746 and 1CS-752 circuits from OST-1083 and OST-1084 and transferring the testing requirement to procedure OST-1809 (Refueling Water Storage Tank switchover to the Containment sumps), which is also an 18-month ESF response time test. OST-1809 was not performed following the October maintenance outage, thus resulting in the testing omission and Technical Specification violation.

During the investigation of this event, personnel performing the Technical Specification testing program review verified that OST-1809 had been successfully performed during Refueling Outage 6 on September 8, 1995, which verified the operability of the affected circuits.

The June 1993 revisions to OST-1083 and OST-1084 were performed to incorporate a plant modification (PCR-6547) on the Charging/Safety Injection Pump (CSIP) Alternate Mini-Flow lines. This modification removed the previously installed relief valves and provided an "open" signal to 1CS-746 and 1CS-752 upon receipt of a Safety Injection signal.

This condition was determined to be a violation of the Technical Specification surveillance test periodicity requirement and is being reported per 10CFR50.73(a)(2)(i)(b).

The following additional Technical Specification testing deficiencies have been identified by the on-going comprehensive Technical Specification testing program review:

1. Slave relays (K635 & K640) for the Auxiliary Feedwater (AFW) Flow Control Valves (EIIS BA-FCV) were not tested within their required quarterly surveillance interval following Refueling Outage (RFO) 5 in 1994 through RFO 6 in October 1995. This was a result of inadequate technical reviews associated with the plant modification (PCR-6502) that installed the auto-open signal to these valves. PCR-6502 specified the slave relay surveillance testing interval as once per 18 months per Technical Specification 4.7.1.2, but failed to identify the quarterly requirement contained in Technical Specification 4.3.2.1. Both of these relays were subsequently tested following RFO 6, which verified their operability. This condition was identified on February 1, 1996 with the plant operating in Mode-1 at 100% power.

2. Testing for manual Safety Injection (SI, EIIS-BQ) and Containment Spray (CS, EIIS-BE) actuation has not fully tested all switch contacts within the required 18 month surveillance test interval per Technical Specification 4.3.2.1. The Operations Surveillance Test Procedures (OST-1825 & OST-1826) that verify the operability of the actuation circuits, only test one of the two manual actuation switches for each signal once per 18 months, thus resulting in the Technical Specification violation. The alternate test switch has been satisfactorily tested approximately once per 36 months due to test performance staggering. Based on this previous testing, the SI and CS switches are currently operable. However, one set of CS switches will become inoperable on March 3, 1996 and one SI switch will become inoperable on March 19, 1996. This condition has existed since initial development of OST-1825 & OST-1826 and was identified on February 12, 1996 with the plant operating in Mode-1 at 100% power.

3. Quarterly surveillance testing was not performed for the "B" Charging/Safety Injection Pump Mini-Flow Isolation Valve (1CS-196) Slave Relay (K601) (EIIS Code BQ-ISV,RLY) during Refueling Outage 6 in 1995. This slave relay should have been tested during the performance of OST-1086 in August of 1995, but the "B" CSIP was inoperable and 1CS-196 was under clearance at the time of the test. This was noted in the procedure, but the test was considered satisfactory by the operations control room staff due to a deficiency in the acceptance criteria section of OST-1086. The acceptance criteria, which was changed during a recent procedure revision, did not specify the need to test the 1CS-196 slave relay, so no Equipment Inoperable Record was generated for tracking purposes, which would have required subsequent testing. The operability of the slave relay was successfully verified by performing OST-1086 in December 1995. This condition was identified on February 17, 1996 with the plant operating in Mode-1 at 100% power.

4. Eleven Maintenance Surveillance Test (MST) Procedures were identified that did not verify automatic isolation of the effluent pathway on a loss of power for the associated radiation monitor (EIIS Code IL-MON) as required by Technical Specification 4.3.3.10. This affected six radiation monitors and their related pathways. This testing omission was created when the MSTs were inappropriately revised in 1993 in an effort to eliminate procedure steps that were thought to be redundant and unnecessary. Inattention to detail and an incomplete understanding of the Technical Specification testing requirements for the radiation monitor circuitry caused the deficiency. The testing requirements for these radiation monitors were removed from Technical Specifications in May 1995, but due to the time frame of the deficiency, the condition constitutes a violation and is therefore included in this LER supplement. This condition was identified on February 14, 1996 with the plant operating in Mode-1 at 100% power.

5. Proper overlap testing has not been performed for an actuation of the Fuel Handling Building Emergency Ventilation System (EIIS-VG) originating from a high radiation alarm signal, as per Technical Specification 4.9.12. OST-1048 tests this feature, but does not include a particular section of cable (#I2913M-SA) between the North Spent Fuel Pool Radiation Monitor (RM-1FR-3567A-SA, EIIS Code IL-MON) and the South Spent Fuel Pool Radiation Monitor (RM-1FR-3564A-SA). This condition has existed since initial development of OST-1048 and was identified on February 19, 1996 with the plant operating in Mode-1 at 100% power. Technical Specification compliance is satisfied by the current operability of other FHB radiation monitors.

6. Logic testing for the Control Room Emergency Filtration Fans (R-2 "A" and "B", EIIS Code VI-FAN) has inadequately verified all automatic fan start signals associated with a Control Room Isolation Actuation. OST-1825 and 1826 have properly verified that the fans automatically start upon receipt of a safety injection actuation signal, however, the operability of a parallel circuit path that provides an automatic start signal on high radiation has not been verified during past testing. This condition has existed since initial development of the applicable surveillance procedures and constitutes a violation of Technical Specification 4.3.2.1. surveillance requirements. This condition was identified on February 22, 1996 with the plant operating in Mode-1 at 100% power.

7. Logic testing for the Reactor Auxiliary Building Electrical Equipment Protection Room Inlet Isolation Valves (1CZ-7 & 1CZ-8, EIIS Code VF-V) has not properly verified the operability of each actuation circuit path. These valves receive a thermal overload bypass signal from two parallel sources; a Control Room Ventilation Isolation Signal and a signal from the Emergency Safeguards Sequencer. Surveillance testing has properly verified the operability these circuits from the Emergency Safeguards Sequencer. However, a portion of the thermal overload bypass circuit for Control Room Isolation has not been verified when the signal is generated from high radiation. This constitutes a violation of Technical Specification 4.3.2.1 surveillance requirements. This condition has existed since initial surveillance procedure development and was identified on February 26, 1996 with the plant operating in Mode-1 at 100% power.

8. Trip Actuating Device Operational Testing has not been adequately performed for the Main Feedwater Pump trip signal following a safety injection actuation. OST-1825 actuates the safety injection switch and then verifies that the Main Feedwater Pumps trip, but due to the process involved during this testing, which includes lifting several leads and installing jumpers in Auxiliary Relay Panel (ARP-10, EIIS Code SJ-PL), a section of internal wiring in ARP-10 has not been verified. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification 4.3.2.1 surveillance requirements. This condition was identified on March 4, 1996 with the plant operating in Mode-1 at 100% power.

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TEXT *(If more space is required, use additional copies of NRC Form 366A)* (17)

9. Ten Maintenance Surveillance Test Procedures were identified that did not perform a channel out of service alarm test or control room annunciation verification on the effluent channels of four separate radiation monitors (EIIS Code IL) as required by Technical Specification 4.3.3.11, Table 4.3-9. This condition has existed since initial development of the applicable surveillance test procedures and was identified on March 11, 1996 with the plant operating in Mode-1 at 100% power.

10. Surveillance testing has not been performed to properly verify the operability of fourteen blocking relays in the Emergency Safeguards Sequencer (ESS) Panels. (EIIS Code EK-PL,RLY) These relays function to ensure that ESF components start from the sequencer's load block program by blocking normal process demand signals and by preventing non-essential safety loads from energizing during load blocks 1 through 8. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.8.1.1.2. This condition was identified on March 21, 1996 with the plant operating in Mode-1 at 100% power, and at 1500 hours both Emergency Sequencers were declared inoperable. Due to this, Technical Specification 4.0.3 was entered, which allowed 24 hours to demonstrate operability of the sequencers. Special surveillance test procedures (OST-9018T and OST-9019T) were developed to perform this testing. At 1500 hours on the next day, March 22, 1996, testing to demonstrate sequencer operability was not complete, so the plant entered Technical Specification 3.0.3, which required shutdown to Mode-3 by 2200 hours. At 1804, the plant commenced a load decrease to comply with this requirement. At 2139, the plant was taken off line and at 2152, Mode-3 was achieved. Testing was completed to verify proper operation of the A-train sequencer at 2336 on March 22, 1996 and for the B-train sequencer at 1430 on March 23, 1996.

11. Surveillance testing has not been performed to verify proper operation of the Containment Fan Cooler Post-Accident Dampers (CV-D1, CV-D3, CV-D5, CV-D7 / EIIS Code VA-DMP). These dampers receive an open signal from the Emergency Safeguards Sequencer and directly from the associated fan cooler starting circuitry. Previous surveillance testing did not verify operability of the signal circuitry originating from the sequencer, failed to consider the existence of a parallel path within the start signal circuitry from the four fan cooler units and did not properly verify that the dampers were actually open. This condition was identified on March 26, 1996, at which time the plant was shutdown in Mode-5 (Cold Shutdown). This constitutes a violation of Technical Specification surveillance requirement 4.6.2.3. To verify operability of these dampers, testing was developed and performed on March 27, 1996. This testing identified that two of the post-accident dampers did not fully open as required and returned closed. Following lubrication of one damper and a minor modification to increase the output of the other damper actuator, satisfactory results were obtained and the dampers and their associated fan cooler units were returned to service on March 28, 1996.

12. Surveillance testing has not been performed to verify proper operation of one relay contact that inhibits the Essential Services Chilled Water Chillers (WC2A-SA &B-SB, EIIS Code: KM -CHU) from starting until load block #8 on the Emergency Safeguards Sequencers. Test procedures have not documented verification of this process. This condition was identified on April 16, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.8.1.1.2.

13. Surveillance testing has not been performed to verify proper operation of a relay contact that bypasses the anti-recycle feature for starting the Essential Services Chilled Water Chillers (WC2A-SA &B-SB, EIIS Code KM-CHU). The anti-recycle feature prevents more than one chiller start within a 30 minute period for equipment protection purposes. This anti-recycle feature is bypassed upon receipt of an automatic start signal from the Emergency Safeguards Sequencer. Verification of this bypass function has not been included in past surveillance testing. This condition was identified on April 16, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.8.1.1.2.

14. Surveillance testing has not been performed to verify proper operation of the Containment Spray automatic sump swapover logic. The Containment Spray Pump Refueling Water Storage Tank Suction Valves (1CT-26SA &1CT-71SB) receive an automatic shut signal when their respective Containment Sump Suction Valves reach the full open position as indicated via contacts on their full open limit switches. This limit switch function has been verified by using a switched jumper that simulates limit switch operation. Therefore, continuity through the limit switch has not been verified. This condition was identified on April 17, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1.

15. Surveillance testing has not been performed to verify proper operation of the Containment Spray Pump sump suction valves (1CT-105SA &1CT-102SB, EIIS Code BE- V) following actuation of relay K741. These valves receive an automatic open signal on Refueling Water Storage Tank (RWST) Lo-Lo level via slave relays K739 and K741. A parallel path exists from each of these relays and past surveillance testing has only verified proper operation of the suction valves from the K739 relay. This condition was identified on April 17, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1.

16. Surveillance testing has not been performed to verify proper operation of the Computer Room Dampers adjacent to the Main Control Room, following a Control Room Isolation Signal. These dampers (CK-D7-1&2, CK-D4-1&2, CK-D8-1&2 and CK-B11-1&2, EIIS Code VI-DMP) receive a signal from relay K603 to place the Computer Room in Recirculation, but have not been included in previous surveillance testing. This condition was identified on April 17, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1.

17. Surveillance testing has not been performed to verify proper operation of the Control Room Isolation Signal for various Computer and Communication Room HVAC components in addition to the dampers listed in item #16 above. These components receive actuation signals following a Control Room Isolation Signal, but have not been included in previous surveillance testing. This condition was identified on April 17, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1.

18. Surveillance testing has not been performed to verify proper operation of the Emergency Safeguards Sequencer load block 4 starting circuit path for the 1A-SA and 1B-SB Containment Spray Pumps (EIIS Code: BE-P). In addition, a parallel Containment Spray Pump starting circuit path from ESS load block 2 has not been independently verified. A combination of testing has verified the pumps automatic start circuitry properly functions, thus no immediate operability concern exists. However, previous testing has not clearly documented which of the two circuit paths provided the automatic pump start signal. This condition was identified on April 23, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.8.1.1.2.

19. Surveillance testing has not been performed to verify proper operation of Breakers 1A3A-SA & 1B3A-SB (EIIS Code: EB-BKR). These breakers are required to trip open during the ESS load shedding process. Previous testing has not included verification and documentation that the breakers have tripped open. Based on a review of historic computer printout logs from the most recent refueling outage (RFO #6), the breakers have operated as required, thus no immediate operability concern exists. This condition was identified on April 24, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.8.1.1.2.

20. Surveillance testing has not been performed to verify proper operation the Gross Failed Fuel Detector Isolation Valve (1CC-304) following a Safety Injection signal. This valve is required to shut following a Safety Injection signal to isolate the Gross Failed Fuel Detector, but verification and documentation of this actuation has not been included in previous testing. This condition was identified on April 24, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1.

21. Surveillance testing has not been performed to verify proper operation of the Computer Room and Communication Room Dampers adjacent to the Main Control Room, following a Control Room Isolation Signal. These dampers (CK-D11-1&2 and CK-D12-1&2) fail open following a Control Room Isolation Signal and during previous surveillance testing have only been verified by observation of "not-shut" indication. This condition was identified on February 26, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1. Due to an administrative oversight during the on-going Technical Specification testing program review, this item was not included in Revision #3 to this LER as it should have been to meet the 30-day reporting requirement. The reportability determination process has been enhanced to prevent recurrence.
(Note: Failure to initially identify this reportable condition and include it in Revision #3 caused a break in the numerical sequence of identified deficiencies. Items 18 - 20 will be included in a future revision to this LER.)

22. Technical Specification surveillance 4.8.1.1.2.f.8 requires a verification that electrical loads automatically connected to the safety bus during Emergency Safeguards Sequencer loading, do not exceed the Emergency Diesel Generators (EDG) continuous rating of 6500 KW. During the Technical Specification Testing Program review, several components were identified that should have been included in this calculation, but had not been during previous testing. When combined, these loads amount to an additional 50 KW of load. Based on the calculated post-accident EDG load of approximately 4000 KW, the 6500 KW limit was not exceeded, thus no operability concern exists. This surveillance requirement was relocated from Technical Specifications to the EDG Reliability Program by issuance of amendment 60 to the Harris Operating License. Though no longer a Technical Specification requirement, the failure to include these loads during past testing represents a historical Technical Specification violation. This testing deficiency has existed since initial surveillance procedure development and was identified on April 25, 1996 with the plant operating in Mode-1 at 100% power.

23. Surveillance testing has not been performed to verify proper operation of several dampers in the Engineered Safety Features (ESF) Ventilation System (EIIS Code: VF-DMP). These dampers receive indirect actuation signals from their associated fans (AH-12 1A-SA, AH-13 1A-SA, AH-16 1A-SA & AH-16 1B-SB) during Emergency Safeguards Sequencer loading. Damper actuation has not been verified or documented during previous testing. This condition was identified on April 25, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.8.1.1.2.f.

24. Surveillance testing has not been performed to verify proper operation of the inhibit interlock circuits (UR-3 & UR-4) associated with the Primary Shield Cooling Fans (S-2 1A-SA and S-2 1B-SB, EIIS Code: VA-Fan) and Reactor Support Cooling Fans (S-4 1A-SA and S-4 1B-SB, EIIS Code: VA-Fan). These inhibit circuits block fan operation signals during execution of the Emergency Safeguards Sequencer automatic loading process. This condition was identified on May 8, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.8.1.1.2.f.

25. Surveillance testing has not been performed to verify proper operation of the automatic closure circuits for the Fuel Handling Building Emergency Ventilation System Isolation Dampers (EIIS Code: VG-DMP) following a high radiation signal. Previous surveillance testing (OST-1048) has verified that these dampers isolate, but failed to consider the existence of a parallel circuit path that also creates a shut signal for these dampers upon an automatic start signal for FHB Emergency Exhaust Fans (E-12 and E-13). This condition was identified on May 29, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.9.12.

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TEXT *(If more space is required, use additional copies of NRC Form 366A)* (17)

26. Surveillance testing has not been performed to verify proper operation of the 6.9 KV Emergency Bus degraded grid voltage relays (EIIS Code: EA-RLY). Previous monthly trip actuating device operational testing (TADOT) has verified that the 86 Under-Voltage Lock-out Relay (OST-1124) operates from the primary under voltage relays (27-1, 27-2, 27-3) actuation circuit path, but has failed to verify the circuit path from the degraded grid voltage relays (27A-1, 27A-2, 27A-3). This condition was identified on June 12, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1.

27. Surveillance testing has not been performed to verify proper operation of the Emergency Safeguards Sequencer (ESS) LOCA-1 and LOCA-2 XS actuation relay contacts and the 2D-2E and 1E-1F reset contacts. These contacts complete the circuit that disconnects the off-site power source from the 6.9 KV Emergency Bus, initiates load shedding and starts the EDG if a degraded grid voltage condition exists for 13 seconds, coincident with a safety injection signal. Previous ESS surveillance testing has failed to verify these contacts. This condition was identified on June 16, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1.

28. Surveillance testing has not been performed to verify proper operation of the Emergency Safeguards Sequencer (ESS) load sequencing timing function. This timing function ensures that the time period between each ESS load block is within 10% of its design interval and that the minimum load block duration is of sufficient length to allow the Emergency Diesel Generator to recover frequency and voltage prior to the start of the next load block. Due to incorrectly interpreting the definition of the load block interval period, previous surveillance testing did not adequately test the timing function. This condition was identified on June 27, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.8.1.1.2.f.3.

29. Surveillance testing has not been performed to verify proper operation of the computer and communication room emergency inlet damper (CK-D7-1&2). This damper receives an open signal following a start of either the A-train or B-train Computer Room Recirculation Fan (R-13). Previous testing has not specifically verified which of the parallel circuit paths the signal originated from. This condition was identified on July 8, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1.

30. Surveillance testing has not been performed to verify proper operation of the Emergency Service Water (ESW) Pump Room Exhaust Fans (E-88 1A-SA and E-88 1B-SB, EIIS Code: BI-FAN). These fans receive indirect actuation signals following an automatic ESW pump start, coincident with an ESW pump room temperature of greater than 90 degrees, and are relied upon to support the safety-related operation of the ESW pumps. Testing has not included verification of this automatic start function. This condition was identified on July 9, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.8.1.1.2.

31. Surveillance testing has not been performed to verify proper operation of the Battery Room Exhaust Fans (E-28 B-SA and E-29 B-SB) following a control room ventilation isolation signal caused by a safety injection. Previous surveillance testing (OST-1825 and OST-1826) has verified that these fans trip, but failed to consider the existence of a parallel circuit path from either the high radiation/safety injection start relay or the Emergency Safeguards Sequencer relay. This condition was identified on July 11, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1.

32. Surveillance testing has not been performed to verify proper operation of the Control Room Normal Supply Inlet Dampers (CZ-D1SA and CZ-D2SB) following a control room ventilation isolation signal. These dampers receive an automatic open signal from the associated Control Room Normal Supply Fan (AH-15 1A-SA and 1B-SB) circuitry, but previous testing has not verified these circuit paths. This condition was identified on July 11, 1996 with the plant operating in Mode-1 at 100% power. This testing deficiency has existed since initial surveillance procedure development and constitutes a violation of Technical Specification surveillance requirement 4.3.2.1.

CAUSE:
The cause of the original Technical Specification violation was personnel error during the June 1993 procedure revision process for OST-1083 and OST-1084. The testing requirements for the slave relay circuits for the CSIP Alternate Mini-Flow Isolation Valves (1CS-746 and 1CS-752) were inappropriately transferred to OST-1809, which was not identified or scheduled as a Mode-5 "event related" surveillance test.

Cause For Additional Items Identified:
Item 1:
The failure to adequately test the K635 and K640 slave relays for the AFW Flow Control Valves was caused by inadequate technical reviews associated with plant modification PCR-6502. This resulted in deficient surveillance test procedures developed to verify the operability of the automatic open signal for the flow control valves on a quarterly basis.

Items 2, 3, 4, 5:
Each of these items were caused by inadequate surveillance test procedures that resulted from incorrectly interpreting how to implement Technical Specification testing requirements. The test procedures for the Safety Injection and Containment Spray manual actuation switches, as well as the FHB Emergency Ventilation system, were based upon this incorrect interpretation and have been deficient since initial development. The radiation monitor MST revisions completed in 1993, were intentionally performed to eliminate what was considered to be redundant and unnecessary testing steps. This decision was also based on the incorrect testing requirement interpretation, as was the revision to OST-1086 that resulted in the acceptance criteria section not listing 1CS-196, and subsequently resulting in the failure to test the valve.

Items 6, through 32:
Each of the additional items contained in the revisions to this LER were identified as a result of the on-going Technical Specification testing program review and were caused by inadequate surveillance test procedures. In the case of item #11, the two post-accident dampers failed to fully open during testing due to improper actuator sizing and inadequate lubrication and preventive maintenance methods.

SAFETY SIGNIFICANCE:
There were no adverse safety consequences as a result of this event. The CSIP Alternate Mini-Flow Isolation Valve circuits were tested satisfactorily on September 8, 1995 to verify operability. This testing provides confidence that had an accident occurred requiring CSIP mini-flow protection due to the re-pressurization of the Reactor Coolant System during a safety injection, the isolation valves would have opened to prevent pump damage.

There were no adverse safety consequences as a result of the additional items (1 thru 32) contained in this LER revision. In each case, subsequent testing was performed as needed, that verified the operability of the affected component or circuit. In the case of item #11, where two of the Containment Fan Cooler Post-Accident Dampers failed to completely open during testing, consequences were minimal. These dampers are required to be open in a post-accident condition within containment to allow a high velocity fan discharge flow to selected areas of containment to accelerate temperature mixing and heat removal. Assuming the failure of these two dampers to open during an accident scenario, combined with the postulated worst case single failure of one safety related electrical supply bus, engineering review has determined that adequate air flow would still exist to ensure containment cooling. This conclusion is based on the availability of one train of Containment Spray and the fact that one fan would remain operable in each Containment Fan Cooler unit. The discharge air flow from each fan would not exit through the post-accident dampers, but would still provide air mixing in containment via the seismic class 1 concrete air shafts. In the case of Item #28, where the ESS load block timing function had not been properly tested, an evaluation was performed that compared both the longest and shortest measured delay times for consecutive start-of-load-block timing relays. This evaluation determined that the A-train ESS timing relays were acceptable, but in the B-train, three relays were found that needed calibration. These relays were replaced with calibrated spares, then tested to ensure proper operation. The as-found time delay settings for these relays did not result in any load block exceeding the EDG loading design analysis.

PREVIOUS SIMILAR EVENTS:
Previous events have been submitted as LERs related to surveillance testing deficiencies caused by procedural inadequacies. LER 95-07, which was submitted on September 28, 1995, contained a corrective action to perform a comprehensive Technical Specification testing program review and it was during this review process that the CSIP Alternate Mini-Flow Isolation Valve condition was identified. This review is being performed by a multi-discipline team and is still in progress.

The additional items reported in this supplement were identified as a result of the on-going Technical Specification testing program review.

CORRECTIVE ACTIONS COMPLETED:
1. Slave relay testing was satisfactorily completed on September 8, 1995 that verified the operability of the CSIP Alternate Mini-Flow Isolation Valve circuits.

2. Personnel involved in the June 1993 procedure revision process for OST-1083 and OST-1084 were counseled.

3. Surveillance procedures OST-1083 and OST-1084 were revised on February 16, 1996 to include the requirements for CSIP Alternate Mini-Flow Isolation Valve slave relay testing.

CORRECTIVE ACTIONS PLANNED:
1. The comprehensive Technical Specification testing program review that identified this condition is currently in progress and will be completed as described in LER 95-07.

CORRECTIVE ACTIONS FOR ADDITIONAL ITEMS IDENTIFIED:
Upon completion of the Technical Specification Testing Program review, appropriate 18-month (refueling) interval surveillance procedures will be revised to incorporate each of the identified deficiencies. This may include development of new procedures and/or separation of testing requirements into several existing procedures. These actions will be performed as addressed in the pending Harris Plant response to NRC Generic Letter 96-01.

Item #1
OST-1044 was revised in December 1995 and OST-1045 was revised in February 1996. These revisions incorporated K635 and K640 slave relay testing on a quarterly basis.

Item 2:
To address the SI switch that would have become inoperable on March 16, 1996, a Request for Exigent License Amendment was submitted to the NRC on February 16, 1996. This requested a one-time extension of the testing interval for testing the SI switch, due to the hazards involved with testing while on-line. Operations Surveillance Test procedure (OST-9016T) was revised and performed to test the CS switches. Additionally, a new OST will be developed to properly test each Safety Injection and Containment Spray manual actuation switch once every 18 months.

Item 3:
OST-1086 will be revised to enhance the acceptance criteria to ensure that testing of the "B" CSIP Normal Mini-Flow Isolation (1CS-196) is included.

Item 4:
The radiation monitor operability and testing requirements were moved from Technical Specification 4.3.3.10 to the Off-Site Dose Calculation Manual (ODCM) in May 1995. Upon identification of this condition, the effected radiation monitors were declared inoperable. Appropriate MST procedure revisions were completed and the tests performed, to fully verify the automatic pathway isolation function of the radiation monitors. To ensure compliance, additional procedure changes and/or ODCM revisions will be completed to clarify the testing requirements and enhance the performance of future testing.

Item 5:
OST-1048 will be revised to test the FHB Train A Emergency Ventilation actuation from Radiation Monitor RM-1FR-3567A-SA, which will properly include the previously omitted cable.

Item 6:
MST-I0359 and MST-I0361 were revised on February 21, 1996 and successfully performed. This verified the operability of the parallel R-2 fan start circuit on high radiation.

Item 7:
OST-9017T was developed and successfully performed on February 27, 1996. This verified the operability of the thermal overload bypass circuit used during the Control Room Isolation Signal when generated from high radiation. To ensure compliance, future testing of this circuit will be incorporated with a revision to the appropriate maintenance surveillance test procedures or a newly developed operations surveillance test procedure.

Item 8:
OST-1825 and OST-1826 will be revised to properly test appropriate internal wiring in ARP-10.

Item 9:
Immediate corrective actions included declaring the affected radiation monitors inoperable and placing the deficient MST procedures on administrative hold until they could be revised. These procedures were subsequently revised and performed as needed to properly demonstrate the operability of the radiation monitors. This was completed on March 14, 1996.

Item 10:
Immediate corrective actions for this item included declaring both Emergency Safeguards Sequencers inoperable and complying with the testing and plant shutdown requirements of Technical Specification 4.0.3 and 3.0.3. Testing was completed to verify operability of the A-train sequencer at 2336 on March 22, 1996 (OST-9018T) and for the B-train sequencer at 1430 on March 23, 1996 (OST-9019T). To ensure compliance, the appropriate surveillance test procedures will be revised to include future testing of the blocking relays.

Item 11:
Following corrective maintenance, which included a modification to increase the actuator spring rate for damper 1CV-D1, testing was satisfactorily performed on March 28, 1996 and the post accident dampers and their associated fan cooler units were returned to service. Preventive maintenance for these dampers was enhanced by generating a checklist (CL-ME0023) that includes requirements for periodic lubrication and inspection. This was completed on 4/19/96. To ensure compliance, the appropriate surveillance test procedures will be revised to include future testing of the post-accident dampers.

Items 12 & 13:
Immediate corrective actions for these items included declaring both Essential Services Chilled Water Chiller units inoperable. Testing (OST-9020T and EPT033) was then satisfactorily completed on April 16, 1996 to verify operability of both chiller units. To ensure compliance, the appropriate surveillance test procedures will be revised to include future testing of the chiller unit inhibit and anti-recycle bypass functions.

Item 14:
No immediate operability concern existed as a result of this condition due to the performance of a special test (OST-1809T) performed on June 6, 1995. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to include future testing of the limit switch function/continuity.

Item 15:
No immediate operability concern existed as a result of this condition due to the performance of quarterly surveillance testing (OST-1083 &1084) performed on March 26, 1996, which verified actuation of valves 1CT-102 and 1CT-105. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to include future testing of the actuation signal from both slave relays.

Item 16 & 17:
Testing was performed on April 17, 1996 to verify the proper operation of the Computer and Communication Room HVAC components following a Control Room Isolation Signal (MST-I0362). To ensure compliance, the appropriate surveillance test procedure(s) will be revised to include future testing of these dampers.

Item 18:
No immediate operability concern existed as a result of this condition. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to include future testing of the Containment Spray Pump automatic start circuitry.

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
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Item 19:
Based on a review of OST-1823 and OST-1824 ERFIS computer historic log printouts, the 1A3A-SA and 1B3A-SB breakers operated as required during testing performed in Refueling Outage 6. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to include future testing of these breakers.

Item 20:
Operability of valve 1CC-304 was verified on March 26, 1996 during the performance of OST-1083. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to include future testing of 1CC-304 following a Safety Injection signal.

Item 21:
Testing was performed on February 26, 1996 to verify proper operation of dampers CK-D11-1&2 and CK-D12-1&2 (OST-9017T). To ensure compliance, the appropriate surveillance test procedure(s) will be revised to include future testing of these dampers.

Item 22:
An Engineering Evaluation (ESR 00226) was initiated on April 25, 1996 and concluded that the additional 50KW loading would not exceed the EDG's continuous rating of 6500 KW. To ensure compliance, the appropriate test procedure(s) and/or engineering calculations will be revised.

Item 23:
Testing was satisfactorily performed on April 25, 1996 to verify the operability of each damper that received an indirect signal from it's associated ESF Ventilation System fan. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to include future testing of these dampers.

Item 24:
Testing was satisfactorily performed on May 8, 1996 to verify the operability of the UR-3 and UR-4 inhibit circuits. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to include future testing of these circuits.

Item 25:
On May 30, 1996 the Fuel Handling Building Emergency Exhaust Fans (E-12 & E-13) were declared inoperable and the action statements of Technical Specification 3.9.12 were applied. On June 8, 1996 testing was satisfactorily performed on the Fuel Handling Building Emergency Exhaust System and both trains were returned to service. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to verify that the FHB isolation dampers shut via the direct acting relays rather than the indirect actuation signal from the exhaust fan trip.

Item 26:
Testing was satisfactorily performed on June 13, 1996 to verify operability of the 86 UV Lock-out Relay utilizing the circuit path from the degraded grid voltage relays. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to ensure that future testing includes verification of this circuit path.

Item 27:
Testing was satisfactorily performed on June 17 & 18, 1996 to verify operability of the LOCA-1 XS actuation relays and the 2D-2E & 1E-1F reset relay contacts. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to ensure that future testing includes verification of these relay contacts.

Item 28:
An evaluation (ESR 9600366) was performed on June 27, 1996 to assess the operability of the A-train and B-train sequencers. This evaluation determined that the A-train ESS timing relays were acceptable, but in the B-train, three relays were found that needed calibration. These relays were replaced with calibrated spares, then satisfactorily tested. The B-train ESS was then returned to service and declared operable at 2135 hours on June 27, 1996. To clarify the definition of the ESS load block interval period, a revision to Technical Specification Interpretation #89-005 was completed on July 12, 1996. To ensure compliance, the appropriate surveillance test procedure(s), Setpoint Document and Instrument List will be revised to ensure that future testing includes proper verification of the ESS load block timing function.

Item 29:
Testing was satisfactorily performed on July 8, 1996 to verify operability of the Computer and Communication Rooms Emergency Inlet Damper (CK-D7-1&2) circuitry. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to ensure that future testing verifies proper operation of both damper circuit paths.

Item 30:
Testing was satisfactorily performed on July 9, 1996 to verify the operability of the the Emergency Service Water (ESW) Pump Room Exhaust Fans (E-88 1A-SA and E-88 1B-SB). To ensure compliance, the appropriate surveillance test procedure(s) will be revised to ensure that future testing verifies proper operation of the E-88 fan circuit paths.

Item 31:
Testing was satisfactorily performed on July 11, 1996 to verify the operability of the Battery Room Exhaust Fans (E-28 B-SA and E-29 B-SB) circuit path via the ESS start relay. To ensure compliance, the appropriate surveillance test procedure(s) will be revised to ensure that future testing verifies proper operation of both E-28 and E-29 trip circuit paths.

Item 32:
Testing was satisfactorily performed on October 5, 1995 to verify the operability of the Control Room Normal Inlet Supply Dampers (CZD1-SA and CZD2-SB). To ensure compliance, the appropriate surveillance test procedure(s) will be revised to ensure that future testing verifies proper operation of these dampers.

EIIS CODES:
High Head Safety Injection: BQ
Auxiliary Feedwater Flow Control Valves: BA-FCV
Containment Spray: BE
Containment Ventilation: VA
Control Room Emergency Ventilation: VI
Emergency Service Water: BI
Main Feedwater: SJ
Radiation Monitoring: IL
Emergency Sequencers: EK
Fuel Handling Building Ventilation: VG
Reactor Auxiliary Building Ventilation: VF