



December 28, 2006

L-MT-06-086
10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Monticello Nuclear Generating Plant
Docket 50-263
License No. DPR-22

Response to Request for ECCS Surveillance Documentation to Confirm the
Functionality of the LPCI Loop Select Time Delay Relays During Past Surveillance
Testing

Reference: 1) NMC letter to U.S. NRC, "License Amendment Request: One-Time Low Pressure Coolant Injection Loop Select Logic Time Delay Relay Surveillance Interval Extension," (L-MT-06-071), dated November 14, 2006.

On November 14, 2006, the Nuclear Management Company, LLC (NMC) submitted a license amendment request for the Monticello Nuclear Generating Plant (Reference 1) to request a one-time extension to the quarterly surveillance interval specified in the Technical Specifications (TS) for the following low pressure coolant injection (LPCI) loop select logic functions in Table 3.3.5.1-1 of Specification 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation:"

- 2.k. Reactor Steam Dome Pressure - Time Delay Relay (Break Detection)
- 2.l. Recirculation Pump Differential Pressure - Time Delay Relay (Break Detection)
- 2.m. Recirculation Riser Differential Pressure - Time Delay Relay (Break Detection)

On December 8, 2006, a teleconference was held between the U.S. Nuclear Regulatory Commission (NRC) and NMC. The NRC requested Emergency Core Cooling System (ECCS) surveillance documentation to confirm the functionality of the time delay relays during testing. Enclosure 1 provides the NMC response to this request. Enclosure 2 provides copies of the surveillance documentation supporting the request. Enclosure 3 provides residual heat removal system schematics that support the response in Enclosure 1 and the surveillance documentation in Enclosure 2.

This letter makes no new commitments or changes to any existing commitments.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 28, 2006.

A handwritten signature in black ink, appearing to read "Bradley J. Sawatzke", with a stylized flourish at the end.

Bradley J. Sawatzke
Acting Site Vice President, Monticello Nuclear Generating Plant
Nuclear Management Company, LLC

Enclosures: (3)

cc: Administrator, Region III, USNRC
Project Manager, Monticello, USNRC
Resident Inspector, Monticello, USNRC
Minnesota Department of Commerce

ENCLOSURE 1

ECCS SURVEILLANCE DOCUMENTATION

Introduction

On November 14, 2006, the Nuclear Management Company, LLC (NMC) submitted a license amendment request for the Monticello Nuclear Generating Plant (Reference 1) to request a one-time extension to the quarterly surveillance interval specified in the Technical Specifications (TS) for the Low Pressure Coolant Injection (LPCI) loop select logic functions in Table 3.3.5.1-1 of Specification 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation:"

On December 8, 2006, a teleconference was held between the U.S. Nuclear Regulatory Commission (NRC) and NMC. The NRC requested Emergency Core Cooling System (ECCS) surveillance documentation to confirm the functionality of the time delay relays during testing. The NRC request is shown in bold and the NMC response is provided immediately thereafter in standard type.

NRC Request for Additional Information

- (1) **Provide relevant documentation from three recent ECCS surveillances showing that the LPCI loop select time delay relays have been functional. Please note that the staff found the data referenced in the USAR and no longer needs time sequencing information as discussed during the conference call; only the ECCS surveillance documentation confirming the functionality of the time delay relay logic is necessary.**

The LPCI loop select time delay relays associated with the TS Table 3.3.5.1-1 functions and their contacts are functionally tested in surveillance procedure 0036-02, "ECCS Automatic Initiation Test, Including Loss of Auxiliary Power." This is a comprehensive procedure performed once a cycle during refueling outages (RFO).

Enclosure 2 provides the applicable portions of the 0036-02 surveillance procedure for the last three performances. The performances of 0036-02, in reverse order, were on:

Date	Refueling Outage	0036-02 Revision
April 9, 2005	2005	27
May 20, 2003	2003	22
December 8, 2001	2001	21

The LPCI loop select time delay relays were not identified as surveillance requirements in the previous custom TS, and therefore, are not explicitly identified within surveillance procedure 0036-02. A description is provided below of the other relays included in surveillance procedure 0036-02, that require the applicable

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LPCI loop select time delay relay to be energized, indirectly verifying that the particular LPCI loop select relays functioned during surveillance performance.

Enclosure 3 provides copies of the following three schematics, to enable the logic to be better understood during review of the surveillance tests in conjunction with the guidance below for verifying functionality for each LPCI loop select time delay relay below.

- NX-7905-46-2, Elementary Diagram Residual Heat Removal System, Rev. V
- NX-7905-46-5, Residual Heat Removal System Schematic Diagram, Rev. U, (Relay Logic Circuit A)
- NX-7905-46-9, Residual Heat Removal System Schematic Diagram, Rev. P, (Relay Logic Circuit B)

**A. Reactor Steam Dome Pressure – Time Delay Relay (Break Detection)
(Function 2.k) --- Relays 10A-K34A and 10A-K34B**

In the surveillance procedure 0036-02 steps referenced below, it is verified that the following relays are in CONDITION B (energized) using Table 1 in the surveillance procedure;

10A-K39A (see schematic NX-7905-46-5)

10A-K39B (see schematic NX-7905-46-9)

0036-02 Revision 27 STEP 82

0036-02 Revision 22 STEP 81

0036-02 Revision 21 STEP 81

Upstream of relay coils 10A-K39A and 10A-K39B are 10A-K37A contacts 1-2 and 10A-K37B contacts 1-2, respectively. These contacts must be made up for 10A-K39A and 10A-K39B to energize. Upstream of relay coils 10A-K37A and 10A-K37B are 10A-K34A contacts T1-M1 and 10A-K34B contacts T1-M1, respectively. These contacts must be made up for 10A-K37A and 10A-K37B to energize. This is verification that 10A-K34A and 10A-K34B were energized during performance of the surveillance procedure 0036-02 and indicates the functioning of the Reactor Steam Dome Pressure – Time Delay Relays (Function 2.k).

Therefore, surveillance procedure 0036-02 functionally verifies all the used contacts of relays 10A-K34A and 10A-K34B.

In Enclosure 2 each procedure step will be annotated with the letter "A" in the left margin and each relay or set of contacts on the schematics of Enclosure 3 will be boxed with the letter "A" next to the box.

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B. Recirculation Pump Differential Pressure – Time Delay Relay (Break Detection) (Function 2.I) --- Relays 10A-K28A and 10A-K28B

In the surveillance procedure 0036-02 steps referenced below, it is verified that the following relays are energized;

10A-K30A (see schematic NX-7905-46-5)

10A-K30B (see schematic NX-7905-46-9)

	<u>10A-K30A</u>	<u>10A-K30B</u>
0036-02 Revision 27	STEP 52.a.3)	STEP 52.a.7)
0036-02 Revision 22	STEP 52.a.3)	STEP 52.a.7)
0036-02 Revision 21	STEP 52.a.3)	STEP 52.a.7)

10A-K88A (see schematic NX-7905-46-5)

10A-K88B (see schematic NX-7905-46-9)

	<u>10A-K88A</u>	<u>10A-K88B</u>
0036-02 Revision 27	STEP 52.a.4)	STEP 52.a.8)
0036-02 Revision 22	STEP 52.a.4)	STEP 52.a.8)
0036-02 Revision 21	STEP 52.a.4)	STEP 52.a.8)

Upstream of relay coils 10A-K30A and 10A-K30B are 10A-K28A contacts 2-6 and 10A-K28B contacts 2-6, respectively. These contacts must be made up for 10A-K30A and 10A-K30B to energize.

Upstream of relay coils 10A-K88A and 10A-K88B are 10A-K28A contacts 1-5 and 10A-K28B contacts 1-5, respectively. These contacts must be made up for 10A-K88A and 10A-K88B to energize.

This is verification that 10A-K28A and 10A-K28B were energized during performance of the surveillance procedure 0036-02 and indicates the functioning of the Recirculation Pump Differential Pressure – Time Delay Relays (Function 2.I).

Therefore, surveillance procedure 0036-02 functionally verifies all used contacts of relays 10A-K28A and 10A-K28B.

In Enclosure 2 each procedure step will be annotated with the letter “B” in the left margin and each relay or set of contacts on the schematics of Enclosure 3 will be boxed with the letter “B” next to the box.

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C. Recirculation Riser Differential Pressure – Time Delay Relay (Break Detection) (Function 2.m) --- Relays 10A-K40A and 10A-K40B

In the surveillance procedure 0036-02 steps referenced below, it is verified that the following relays are in CONDITION A (energized) using Table 1 in the surveillance procedure;

10A-K43A (see schematic NX-7905-46-5)

10A-K43B (see schematic NX-7905-46-9)

0036-02 Revision 27 STEP 49

0036-02 Revision 22 STEP 49

0036-02 Revision 21 STEP 49

Upstream of relay coils 10A-K43A and 10A-K43B are 10A-K40A contacts T1-M1 and 10A-K40B contacts T1-M1, respectively. These contacts must be made up for 10A-K43A and 10A-K43B to energize. This is verification that 10A-K40A and 10A-K40B were energized during performance of the surveillance procedure 0036-02 and indicates the functioning of the Recirculation Riser Differential Pressure – Time Delay Relays (Function 2.m).

Therefore, surveillance procedure 0036-02 functionally verifies the contacts of relays 10A-K40A and 10A-K40B. Note, that the Recirculation Riser Differential Pressure – Time Delay Relays also have normally closed contacts to ensure that once a LPCI loop is selected it remains selected.

In Enclosure 2 each procedure step will be annotated with the letter “C” in the left margin and each relay or set of contacts on the schematics of Enclosure 3 will be boxed with the letter “C” next to the box.

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REFERENCE

1. NMC letter to U.S. NRC, "License Amendment Request: One-Time Low Pressure Coolant Injection Loop Select Logic Time Delay Relay Surveillance Interval Extension," (L-MT-06-071), dated November 14, 2006.

ENCLOSURE 2

**COPIES OF SURVEILLANCE DOCUMENTATION
FOR THE LAST THREE PERFORMANCES OF**

**SURVEILLANCE PROCEDURE 0036-02
ECCS AUTOMATIC INITIATION TEST, INCLUDING LOSS OF AUXILIARY POWER**

(18 Pages Follow)

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MASTER

0036-02 ECCS UNDERVOLTAGE FUNCTIONAL TEST ✓
 0039-02 ECCS LOSS OF AUXILIARY POWER FUNCTIONAL TEST ✓
 0093 CORE SPRAY SYSTEM SIMULATED AUTOMATIC ACTUATION ✓
 0103 LPCI SYSTEM SIMULATED AUTOMATIC ACTUATION ✓
 0111-01 HPCI SYSTEM SIMULATED AUTOMATIC ACTUATION ✓
 0111-02 HPCI SYSTEM AUTO RESTART AFTER HIGH WATER LEVEL TRIP ✓
 0113-01 ADS SYSTEM SIMULATED AUTOMATIC ACTUATION ✓
 0117-01 RCIC SYSTEM SIMULATED AUTOMATIC ACTUATION ✓
 0117-02 RCIC SYSTEM AUTO RESTART AFTER HIGH WATER LEVEL TRIP ✓
 0189-03 STANDBY DIESEL GENERATOR SIMULATED AUTOMATIC ACTUATION AND LOADING
 (LOADING TEST ONLY)
 0452 ADS INHIBIT SWITCH TEST ✓

5/20/03

12/4/01

REVIEW AND APPROVALS		
Prepared By: <i>SE Thompson</i>	Reviewed By: <i>AW</i>	
Logic Testing Coordinator Review By: <i>AW</i>		
OC Review Req'd: YES	OC Meeting Number: 2443D	Date: 12-30-04
OC Results Review Req'd: NO	Date: 11/08/78	
Approved By: <i>A. J. M. A</i>	Date: 12-30-04	

REVIEW AND APPROVAL OF ACTIVITIES		DATE
Shift Supv Approval to Commence: <i>AW</i>		Time: 0119
Completed By	Operator: <i>J. H. Carlson</i>	4-7-05
	I&C Specialist: <i>David J. Smith</i>	4-9-05
	Electrician: <i>John Smith</i>	4-9-05
	Test Engineer: <i>Jim Smith</i>	4-9-05
Completion Reviewed By	Shift Supv: <i>A. J. M. A</i>	4/9/05
	System Engineer: <i>Candy R. Munk</i>	5/9/05
OC Results Reviewed at Meeting Number: NA		NA

COMMENTS 3 Work Copies - Ops, Eng & I-C

Infrequent Test or Evolution see 4 AWI-04.05.07 (PROCEDURE IMPLEMENTATION).

Added Steps 70d, 71a, 282a, & 283a For PMTs on ADS 0505535 and 0505336 Rm 4/4/05

Temp Change to Appendix 1 Steps 17 & 29 for new HPCI & RCIC controllers 4-6-05

WO(S) ISSUED YES _____ NO _____ NUMBER(S) _____

FOR ADMINISTRATIVE USE ONLY			
3087 (DOCUMENT CHANGE, HOLD, AND COMMENT FORM) incorporated: 04-3424			
Resp Supv: E&I	Assoc Ref: E&I	SR: Y	Freq: 3 yrs
ARMS: 0036-02	Doc Type: 4030	Admin Initials: <i>AW</i>	Date: 3/23/05

I/lcc

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STEP 48 Verify the following:

- a. MO-2013, LPCI INJECTION OUTBOARD, is OPEN. H
- b. MO-2015, LPCI INJECTION INBOARD, is OPEN and remains open when associated handswitch is placed in CLOSE. H
- c. MO-2012, LPCI INJECTION-OUTBOARD, is CLOSED. H
- d. MO-2014, LPCI INJECTION-INBOARD, is CLOSED. H

 C STEP 49 Verify relay status in Table 1, CONDITION A. H

STEP 50 Place control switches for the following Drywell fans to the OFF position (Panel C-25):

- a. V-RF-1, DW COOLING RECIRC FAN 1 H
- b. V-RF-2, DW COOLING RECIRC FAN 2 H
- c. V-RF-3, DW COOLING RECIRC FAN 3 H
- d. V-RF-4, DW COOLING RECIRC FAN 4 H

STEP 51 Perform the following:

- a. Verify the following relays are de-energized (Panel C-32):
 - 1) 10A-K23A H
 - 2) 10A-K24A H
 - 3) 10A-K25A H
 - 4) 10A-K26A H
- (b.) At PLC-2-184-18B, Slot 7 move input switch A1 to the left to restore the feedwater flow interlock with 12 Recirc MG (Panel C-18). TV
- (c.) Apply 520 psig to PS-2-3-52A (instrument rack C-56). ↑✓
- (d.) Raise STABLE CURRENT ADJUST potentiometer to LIS-2-3-672A and LIS-2-3-672C (Panel C-303A, Cable Spread) until LLWL trip is RESET on each instrument (center knobs to remain engaged). ↑✓

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LPCI Loop Select Logic

STEP 52 Perform the following:

a. Verify the following relays are energized:

- | | | |
|----------|--------------------------|----------|
| | 1) 23A-K23 (Panel C-39) | <u>2</u> |
| | 2) 10A-K33A (Panel C-32) | <u>2</u> |
| <u>B</u> | 3) 10A-K30A (Panel C-32) | <u>2</u> |
| <u>B</u> | 4) 10A-K88A (Panel C-32) | <u>2</u> |
| | 5) 10A-K90A (Panel C-32) | <u>2</u> |
| | 6) 10A-K33B (Panel C-33) | <u>2</u> |
| <u>B</u> | 7) 10A-K30B (Panel C-33) | <u>2</u> |
| <u>B</u> | 8) 10A-K88B (Panel C-33) | <u>2</u> |
| | 9) 10A-K90B (Panel C-33) | <u>2</u> |

b. Verify the following status lights are off:

- | | |
|--|----------|
| 1) RHR DIVISION I - CONTAINMENT SPRAY
PERMISSIVE INTLK "RESET" (Panel C-03). | <u>2</u> |
| 2) RHR DIVISION I - LPCI LOOP SELECT LOGIC
"RESET" (Panel C-03). | <u>2</u> |
| 3) RHR DIVISION II - CONTAINMENT SPRAY
PERMISSIVE INTLK "RESET" (Panel C-03). | <u>2</u> |
| 4) RHR DIVISION II - LPCI LOOP SELECT LOGIC
"RESET" Panel C-03). | <u>2</u> |
| 5) HPCI - INITIATION RESET (Panel C-03). | <u>2</u> |

STEP 53 Perform the following:

a. Momentarily depress the following for the RHR and HPCI systems (Panel C-03),
AND verify the associated status lights are on:

- | | |
|---|----------|
| 1) HPCI - INITIATION RESET | <u>2</u> |
| 2) RHR DIVISION I - CONTAINMENT SPRAY
PERMISSIVE INTLK RESET | <u>2</u> |

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STEP 77 Verify the following:

- Relay 14A-K13A is de-energized (Panel C-32).
- Relay 10A-K44A is de-energized (Panel C-32).
- Relay 14A-K13B is de-energized (Panel C-33).
- Relay 10A-K44B is de-energized (Panel C-33).

STEP 78 Verify MO-4085A, RHR DISCHARGE EQUALIZING VALVE, is CLOSED.

STEP 79 Verify MO-4085B, RHR DISCHARGE EQUALIZING VALVE, is CLOSED.

(STEP 80) Simulate low reactor pressure by releasing pressure on PS-2-3-52A below trip point, < 470 psi (Panel C-56).

STEP 81 Verify the following:

- MO-2012, LPCI INJECTION-OUTBOARD, is OPEN.
- MO-2014, LPCI INJECTION-INBOARD, is OPEN and remains open when its associated handswitch is placed in CLOSE.
- MO-2013, LPCI INJECTION OUTBOARD, is CLOSED.
- MO-2015, LPCI INJECTION INBOARD, is CLOSED.

2. All RHR - Core Spray Pumps are in, PTL.

STEP 82 Verify relay status in Table 1, CONDITION B.

(STEP 83) Apply ≥ 520 psig to PS-2-3-52A (instrument rack C-56).

STEP 84 Perform the following:

- Raise STABLE CURRENT ADJUST potentiometer to LIS-2-3-672B and LIS-2-3-672D, (Panel C-303B, EFT 3rd Floor) until LLWL is RESET (center knobs to remain engaged).
- Reduce pressure on DPIS-2-129B and DPIS-2-129D to reset.
- Verify relays 10A-K35B and 10A-K36B are de-energized (Panel C-33).

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Table 1
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RELAY	PANEL	CONDITION			STEP VERIFICATION															
		A	B	C	49	55	82	87	102	106	122	126	145	295	299	302	308	311	315	318
10A-K9A	C-32	E	E	E	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
10A-K10A	C-32	E	E	E	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
10A-K99A	C-32	DE	E	DE*	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
10A-K43A	C-32	E	DE	E*	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
10A-K66A	C-32	DE	E	DE*	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
10A-K67A	C-32	E	DE	E*	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
10A-K68A	C-32	E	E	E	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
10A-K73A	C-32	E	E	E	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
14A-K10A	C-32	E	E	E	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
14A-K11A	C-32	E	E	E	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
14A-K13A	C-32	E	E	E	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
14A-K22A	C-32	E	E	E	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
2E-K6A	C-32	DE	DE	DE	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
2E-K7A	C-32	DE	DE	DE	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
2E-K6B	C-32	DE	DE	DE	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
2E-K7B	C-32	DE	DE	DE	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
10A-K9B	C-33	E	E	E	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO
10A-K10B	C-33	E	E	E	MS	2	NO	NO	NO	P	NO	P	2	SA	SA	SA	NO	NO	NO	NO

*Relay status is dependent on LPCI loop selection, loop 12 selection shown, if loop 11 selected opposite relay status is correct.

1/icc

A C

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Table 1 (Cont'd)
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RELAY	PANEL	CONDITION			STEP VERIFICATION															
		A	B	C	49	55	82	87	102	106	122	126	145	295	299	302	308	311	315	318
10A-K39B	C-33	DE	E	DE*	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
10A-K43B	C-33	E	DE	E*	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
10A-K66B	C-33	DE	E	DE*	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
10A-K67B	C-33	E	DE	E*	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
10A-K68B	C-33	E	E	E	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
10A-K73B	C-33	E	E	E	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
14A-K10B	C-33	E	E	E	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
14A-K11B	C-33	E	E	E	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
14A-K13B	C-33	E	E	E	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
14A-K22B	C-33	E	E	E	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
23A-K1	C-39	E	E	DE	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
23A-K2	C-39	E	E	DE	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
23A-K3	C-39	DE	DE	E	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
23A-K4	C-39	DE	DE	E	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
23A-K23	C-39	E	E	E	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
13A-K1	C-30	E	E	DE	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO
13A-K2	C-30	E	E	DE	AS	Q	NO	NO	NO	✓	NO	✓	Q	SA	SA	SA	NO	NO	NO	NO

*Relay status is dependent on LPCI loop selection, loop 12 selection shown, if loop 11 selected opposite relay status is correct.

I/lcc

B0602009

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- ✓ 0036-02 ECCS UNDERVOLTAGE FUNCTIONAL TEST
- ✓ 0039-02 ECCS LOSS OF AUXILIARY POWER FUNCTIONAL TEST
- ✓ 0093 CORE SPRAY SYSTEM SIMULATED AUTOMATIC ACTUATION
- ✓ 0103 LPCI SYSTEM SIMULATED AUTOMATIC ACTUATION
- ✓ 0111-01 HPCI SYSTEM SIMULATED AUTOMATIC ACTUATION
- ✓ 0111-02 HPCI SYSTEM AUTO RESTART AFTER HIGH WATER LEVEL TRIP
- ✓ 0113-01 ADS SYSTEM SIMULATED AUTOMATIC ACTUATION
- ✓ 0117-01 RCIC SYSTEM SIMULATED AUTOMATIC ACTUATION
- ✓ 0117-02 RCIC SYSTEM AUTO RESTART AFTER HIGH WATER LEVEL TRIP
- ✓ 0189-03 STANDBY DIESEL GENERATOR SIMULATED AUTOMATIC ACTUATION AND LOADING
(LOADING TEST ONLY)
- ✓ 0452 ADS INHIBIT SWITCH TEST

REVIEW AND APPROVALS		
Prepared By: <i>Keith Stadler</i>	Reviewed By: <i>Leland A. [Signature]</i>	
OC Review Req'd: YES	OC Meeting Number: 2366-D	Date: 5/11/03
OC Results Review Req'd: NO		Date: 11/08/78
Approved By: <i>Matthews Anthony</i>	Date: 5/11/03	

REVIEW AND APPROVAL OF ACTIVITIES		DATE
Shift Supv Approval to Commence:	<i>[Signature]</i>	Time: 1920 5-18-03
Completed By	Operator: <i>M. [Signature]</i>	5-20-03
	I&C Specialist: <i>A. [Signature]</i>	5-20-03
	Electrician: <i>M. [Signature]</i>	5-20-03
	Test Engineer: <i>[Signature]</i>	5/20/03
Completion Reviewed By	Shift Supervisor: <i>[Signature]</i>	5-21-03
	System Engineer: <i>Keith Stadler</i>	5/29/03
OC Results Reviewed at Meeting Number: NA		NA

COMMENTS

Infrequent Test or Evolution see 4 AWI-04.05.07 (PROCEDURE IMPLEMENTATION).

Witnessed By for ALL Independently Verified by has
 be authorized by management 13, 5/18/03
 Temp change step 331 to add 331c to reset alarm BCB 13
 WO(S) ISSUED YES ___ NO ___ NUMBER(S) _____

FOR ADMINISTRATIVE USE ONLY			
3087 (DOCUMENT CHANGE, HOLD, AND COMMENT FORM) Incorporated 2-17-03 01-3910-0 02-3917			
Res p Supv: E&I	Assoc Ref: E&I	1 SR Y	Frags: 2/ 1/ 1/ 0/
ARMS: 0036-02	Doc Type: 4030	Admin Initials: <i>[Signature]</i>	Date: 5/13/03

I/lcc

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STEP 48 Verify the following:

- a. MO-2013, LPCI INJECTION OUTBOARD, is OPEN.
- b. MO-2015, LPCI INJECTION INBOARD, is OPEN and remains open when associated handswitch is placed in CLOSE.
- c. MO-2012, LPCI INJECTION-OUTBOARD, is CLOSED.
- d. MO-2014, LPCI INJECTION-INBOARD, is CLOSED.

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[Signature]

C STEP 49 Verify relay status in Table 1, CONDITION A.

STEP 50 Place control switches for the following Drywell fans to the OFF position (Panel C-25):

- a. V-RF-1, DW COOLING RECIRC FAN 1
- b. V-RF-2, DW COOLING RECIRC FAN 2
- c. V-RF-3, DW COOLING RECIRC FAN 3
- d. V-RF-4, DW COOLING RECIRC FAN 4

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STEP 51 Perform the following:

- a. Verify the following relays are de-energized (Panel C-32):
 - 1) 10A-K23A
 - 2) 10A-K24A
 - 3) 10A-K25A
 - 4) 10A-K26A
- (b.) At PLC-2-184-18B, Slot 7 move input switch A1 to the left to restore the feedwater flow interlock with 12 Recirc MG (Panel C-18).
- (c.) Apply 520 psig to PS-2-3-52A (instrument rack C-56).
- (d.) Raise STABLE CURRENT ADJUST potentiometer to LIS-2-3-672A and LIS-2-3-672C (Panel C-303A, Cable Spread) until LLWL trip is RESET on each instrument (center knobs to remain engaged).

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PART A 32

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LPCI Loop Select Logic

STEP 52 Perform the following:

a. Verify the following relays are energized:

- | | | |
|----------|--------------------------|----------|
| | 1) 23A-K23 (Panel C-39) | <u>2</u> |
| | 2) 10A-K33A (Panel C-32) | <u>2</u> |
| <u>B</u> | 3) 10A-K30A (Panel C-32) | <u>2</u> |
| <u>B</u> | 4) 10A-K88A (Panel C-32) | <u>2</u> |
| | 5) 10A-K90A (Panel C-32) | <u>2</u> |
| | 6) 10A-K33B (Panel C-33) | <u>2</u> |
| <u>B</u> | 7) 10A-K30B (Panel C-33) | <u>2</u> |
| <u>B</u> | 8) 10A-K88B (Panel C-33) | <u>2</u> |
| | 9) 10A-K90B (Panel C-33) | <u>2</u> |

b. Verify the following status lights are off:

- | | |
|--|----------|
| 1) RHR DIVISION I - CONTAINMENT SPRAY
PERMISSIVE INTLK "RESET" (Panel C-03). | <u>2</u> |
| 2) RHR DIVISION I - LPCI LOOP SELECT LOGIC
"RESET" (Panel C-03). | <u>2</u> |
| 3) RHR DIVISION II - CONTAINMENT SPRAY
PERMISSIVE INTLK "RESET" (Panel C-03). | <u>2</u> |
| 4) RHR DIVISION II - LPCI LOOP SELECT LOGIC
"RESET" Panel C-03). | <u>2</u> |
| 5) HPCI - INITIATION RESET (Panel C-03). | <u>2</u> |

STEP 53 Perform the following:

a. Momentarily depress the following for the RHR and HPCI systems (Panel C-03),
AND verify the associated status lights are on:

- | | |
|---|----------|
| 1) HPCI - INITIATION RESET | <u>2</u> |
| 2) RHR DIVISION I - CONTAINMENT SPRAY
PERMISSIVE INTLK RESET | <u>2</u> |

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STEP 80 Verify the following:

- a. MO-2012, LPCI INJECTION-OUTBOARD, is OPEN. 4H
- b. MO-2014, LPCI INJECTION-INBOARD, is OPEN and remains open when its associated handswitch is placed in CLOSE. 4H
- c. MO-2013, LPCI INJECTION OUTBOARD, is CLOSED. 4H
- d. MO-2015, LPCI INJECTION INBOARD, is CLOSED. 4H

A STEP 81 Verify relay status in Table 1, CONDITION B. 4H

(STEP 82) Apply ≥ 520 psig to PS-2-3-52A (instrument rack C-56). 4B

STEP 83 Perform the following:

- (a.) Raise STABLE CURRENT ADJUST potentiometer to LIS-2-3-672B and LIS-2-3-672D, (Panel C-303B, EFT 3rd Floor) until LLWL is RESET (center knobs to remain engaged). 4B
- (b.) Reduce pressure on DPIS-2-129B and DPIS-2-129D to reset. 4B
- c. Verify relays 10A-K35B and 10A-K36B are de-energized (Panel C-33). 4H

STEP 84 Perform the following:

- a. Verify the following relays are energized (Panel C-32):

1) 10A-K37A 4H

2) 10A-K39A 4H

- b. Boot Contact 10A-K37A, 1-2 (Panel C-32)

Boot No. 33

Installed By: 4H

Independently Verified By: 4H

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Table 1
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RELAY	PANEL	CONDITION			STEP VERIFICATION																
		A	B	C	49	55	81	86	101	105	121	125	144	290	294	297	303	306	310	313	
10A-K9A	C-32	E	E	E	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10A-K10A	C-32	E	E	E	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10A-K39A	C-32	DE	E	DE*	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10A-K43A	C-32	E	DE	E*	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10A-K66A	C-32	DE	E	DE*	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10A-K67A	C-32	E	DE	E*	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10A-K68A	C-32	E	E	E	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10A-K73A	C-32	E	E	E	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
14A-K10A	C-32	E	E	E	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
14A-K11A	C-32	E	E	E	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
14A-K13A	C-32	E	E	E	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
14A-K22A	C-32	E	E	E	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
2E-K6A	C-32	DE	DE	DE	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
2E-K7A	C-32	DE	DE	DE	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
2E-K6B	C-32	DE	DE	DE	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
2E-K7B	C-32	DE	DE	DE	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10A-K9B	C-33	E	E	E	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10A-K10B	C-33	E	E	E	Pass	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	

*Relay status is dependent on LPCI loop selection, loop 12 selection shown, if loop 11 selected opposite relay status is correct.

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Table 1 (Cont'd)
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RELAY	PANEL	CONDITION		STEP VERIFICATION															
		A	B C	49	55	81	88	101	105	121	125	144	290	294	297	303	308	310	313
10A-K39B	C-33	DE	E	DE*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
10A-K43B	C-33	E	DE	E*	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
10A-K66B	C-33	DE	E	DE*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
10A-K67B	C-33	E	DE	E*	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
10A-K68B	C-33	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
10A-K73B	C-33	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
14A-K10B	C-33	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
14A-K11B	C-33	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
14A-K13B	C-33	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
14A-K22B	C-33	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
23A-K1	C-38	E	E	DE	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
23A-K2	C-39	E	E	DE	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
23A-K3	C-39	DE	DE	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
23A-K4	C-39	DE	DE	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
23A-K23	C-39	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
13A-K1	C-30	E	E	DE	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
13A-K2	C-30	E	E	DE	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E

*Relay status is dependent on LPCI loop selection, loop 12 selection shown, if loop 11 selected opposite relay status is correct.

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- ✓ 0036-02 ECCS UNDERVOLTAGE FUNCTIONAL TEST
- ✓ 0039-02 ECCS LOSS OF AUXILIARY POWER FUNCTIONAL TEST
- ✓ 0093 CORE SPRAY SYSTEM SIMULATED AUTOMATIC ACTUATION
- ✓ 0103 LPCI SYSTEM SIMULATED AUTOMATIC ACTUATION
- ✓ 0111-01 HPCI SYSTEM SIMULATED AUTOMATIC ACTUATION
- ✓ 0111-02 HPCI SYSTEM AUTO RESTART AFTER HIGH WATER LEVEL TRIP
- ✓ 0113-01 ADS SYSTEM SIMULATED AUTOMATIC ACTUATION
- ✓ 0117-01 RCIC SYSTEM SIMULATED AUTOMATIC ACTUATION
- ✓ 0117-02 RCIC SYSTEM AUTO RESTART AFTER HIGH WATER LEVEL TRIP
- ✓ 0189-03 STANDBY DIESEL GENERATOR SIMULATED AUTOMATIC ACTUATION AND LOADING
(LOADING TEST ONLY)
- ✓ 0452 ADS INHIBIT SWITCH TEST

MASTER

REVIEW AND APPROVALS		
Prepared By: <i>Randy L. Huell</i>	Reviewed By: <i>[Signature]</i>	
OC Review Req'd: YES	OC Meeting Number: 2294-D	Date: 11/29/01
OC Results Review Req'd: NO		Date: 11/08/78
Approved By: <i>[Signature]</i>		Date: 11/29/01

REVIEW AND APPROVAL OF ACTIVITIES		DATE
Shift Supv Approval to Commence: <i>J-WD</i>	Time: 1109	12-6-01
Completed By	Operator: <i>[Signature]</i>	12-8-01
	I&C Specialist: <i>[Signature]</i>	12-8-01
	Electrician: <i>[Signature]</i>	12-8-01
	Test Engineer: <i>[Signature]</i>	12/08/01
Completion Reviewed By	Shift Supervisor: <i>[Signature]</i>	12/12/01
	System Engineer: <i>Randy L. Huell</i>	3/5/02
OC Results Reviewed at Meeting Number: NA		NA

COMMENTS 2 WORK COPIES

Infrequent Test or Evolution see 4 AWI-04.05.07 (PROCEDURE IMPLEMENTATION).

TEMP CHANGE TO APPENDIX 3 TO ADD BYPASS TAGS R20-12-5-01

Temp change to App 4 and step 1c to allow test initiation w/ AC interlock still in /w 12-6-01

WO(S) ISSUED YES ☒ NO ☐ NUMBER(S) _____

FOR ADMINISTRATIVE USE ONLY					
3087 (DOCUMENT CHANGE, HOLD, AND COMMENT FORM) incorporated: 01-9163					
Resp Supv: E&I	Assoc Ref: E&I	SR: Y	Freq: 2	Yrs	
ARMS: 0036-02	Doc Type: 4030	Admin Initials: <i>[Signature]</i>	Date: 12/3/01		

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STEP 43 Attempt to close MO-1752, CS INJECTION OUTBOARD,
AND verify valve remains open.

2

STEP 44 Perform the following:

- Place 14A-S16B, MO-1752, CS INJECTION BYPASS
keyswitch to BYPASS (Panel C-03).
- Verify annunciator 3-B-33 (CORE SPRAY ISOL VLV
1752 BYPASS) alarms.

2

2

STEP 45 CLOSE MO-1752, CS INJECTION OUTBOARD.

2

STEP 46 Attempt to open MO-1752, CS INJECTION OUTBOARD,
AND verify it does not operate.

2

STEP 47 Place MO-1752, CS INJECTION BYPASS keyswitch
(14A-S16B) to AUTO (Panel C-03),
AND verify MO-1752 is OPEN.

2

STEP 48 Verify the following:

- MO-2013, LPCI INJECTION OUTBOARD, is OPEN.
- MO-2015, LPCI INJECTION INBOARD, is OPEN and
remains open when associated handswitch is placed in
CLOSE.
- MO-2012, LPCI INJECTION-OUTBOARD, is CLOSED.
- MO-2014, LPCI INJECTION-INBOARD, is CLOSED.

2

2

2

2

C STEP 49 Verify relay status in Table 1, CONDITION A.

2

STEP 50 Place control switches for the following Drywell fans to the
OFF position (Panel C-25):

2

- V-RF-1, DW COOLING RECIRC FAN 1
- V-RF-2, DW COOLING RECIRC FAN 2
- V-RF-3, DW COOLING RECIRC FAN 3
- V-RF-4, DW COOLING RECIRC FAN 4

2

2

2

2

STEP 51 Perform the following:

- Verify the following relays are de-energized
(Panel C-32):

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k. Boot the following contacts in Panel C-30:

- 1) 13A-K1, 3-4 - prevents auto opening of MO-2096 during future low low level signals.

Boot No. 3

Installed By: [Signature]

Independently Verified By: [Signature]

- 2) 13A-K1, 9-10 - prevents auto opening of MO-2078 during future low low level signals.

Boot No. 15

Installed By: [Signature]

Independently Verified By: [Signature]

LPCI Loop Select Logic

STEP 52 Perform the following:

a. Verify the following relays are energized:

- | | | |
|----------|--------------------------|--------------------|
| | 1) 23A-K23 (Panel C-39) | <u>[Signature]</u> |
| | 2) 10A-K33A (Panel C-32) | <u>[Signature]</u> |
| <u>B</u> | 3) 10A-K30A (Panel C-32) | <u>[Signature]</u> |
| <u>B</u> | 4) 10A-K88A (Panel C-32) | <u>[Signature]</u> |
| | 5) 10A-K90A (Panel C-32) | <u>[Signature]</u> |
| | 6) 10A-K33B (Panel C-33) | <u>[Signature]</u> |
| <u>B</u> | 7) 10A-K30B (Panel C-33) | <u>[Signature]</u> |
| <u>B</u> | 8) 10A-K88B (Panel C-33) | <u>[Signature]</u> |
| | 9) 10A-K90B (Panel C-33) | <u>[Signature]</u> |

b. Verify the following status lights are off:

- | | |
|--|--------------------|
| 1) RHR DIVISION I - CONTAINMENT SPRAY PERMISSIVE INTLK "RESET" (Panel C-03). | <u>[Signature]</u> |
| 2) RHR DIVISION I - LPCI LOOP SELECT LOGIC "RESET" (Panel C-03). | <u>[Signature]</u> |

I/lcc

PART A

33

2253110

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STEP 76 Verify the following:

- a. Relay 14A-K13A is de-energized (Panel C-32).
- b. Relay 10A-K44A is de-energized (Panel C-32).
- c. Relay 14A-K13B is de-energized (Panel C-33).
- d. Relay 10A-K44B is de-energized (Panel C-33).

STEP 77 Verify MO-4085A, RHR DISCHARGE EQUALIZING VALVE, is CLOSED.

STEP 78 Verify MO-4085B, RHR DISCHARGE EQUALIZING VALVE, is CLOSED.

(STEP 79) Simulate low reactor pressure by releasing pressure on PS-2-3-52A below trip point, <470 psi (Panel C-56).

STEP 80 Verify the following:

- a. MO-2012, LPCI INJECTION-OUTBOARD, is OPEN.
- b. MO-2014, LPCI INJECTION-INBOARD, is OPEN and remains open when its associated handswitch is placed in CLOSE.
- c. MO-2013, LPCI INJECTION OUTBOARD, is CLOSED.
- d. MO-2015, LPCI INJECTION INBOARD, is CLOSED.

A STEP 81 Verify relay status in Table 1, CONDITION B.

(STEP 82) Apply ≥ 520 psig to PS-2-3-52A (instrument rack C-56).

STEP 83 Perform the following:

- (a.) Raise STABLE CURRENT ADJUST potentiometer to LIS-2-3-672B and LIS-2-3-672D, (Panel C-303B, EFT 3rd Floor) until LLWL is RESET (center knobs to remain engaged).
- (b.) Reduce pressure on DPIS-2-129B and DPIS-2-129D to reset.
- c. Verify relays 10A-K35B and 10A-K36B are de-energized (Panel C-33).

l/cc

PART A

52

2233110

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Table 1
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RELAY	PANEL	CONDITION				STEP VERIFICATION															
		A	B	C	49	55	81	86	101	105	121	125	142	287	291	294	300	303	307	310	
10A-K9A	C-32	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
10A-K10A	C-32	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
10A-K39A	C-32	DE	E	DE*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
10A-K43A	C-32	E	DE	E*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
10A-K66A	C-32	DE	E	DE*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
10A-K67A	C-32	E	DE	E*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
10A-K68A	C-32	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
10A-K73A	C-32	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
14A-K10A	C-32	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
14A-K11A	C-32	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
14A-K13A	C-32	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
14A-K22A	C-32	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
2E-K6A	C-32	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
2E-K7A	C-32	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
2E-K6B	C-32	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
2E-K7B	C-32	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
10A-K9B	C-33	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	
10A-K10B	C-33	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	

*Relay status is dependent on LPCI loop selection, loop 12 selection shown, if loop 11 selected opposite relay status is correct.

I/cc

A →
C →

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28541

MONTICELLO NUCLEAR GENERATING PLANT		0036-02
TITLE:	ECCS AUTOMATIC INITIATION TEST, INCLUDING LOSS OF AUXILIARY POWER	Revision 21 Page 162 of 170

Table 1 (Cont'd)
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RELAY	PANEL	CONDITION			STEP VERIFICATION															
		A	B	C	49	55	81	86	101	105	121	125	144	287	291	294	300	303	307	310
		DE	E	DE*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
10A-K39B	C-33	DE	E	DE*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
10A-K43B	C-33	E	DE	E*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
10A-K66B	C-33	DE	E	DE*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
10A-K67B	C-33	E	DE	E*	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
10A-K68B	C-33	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
10A-K73B	C-33	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
14A-K10B	C-33	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
14A-K11B	C-33	E	F	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
14A-K13B	C-33	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
14A-K22B	C-33	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
23A-K1	C-39	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
23A-K2	C-39	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
23A-K3	C-39	DE	DE	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
23A-K4	C-39	DE	DE	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
23A-K23	C-39	E	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
13A-K1	C-30	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
13A-K2	C-30	E	E	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE

*Relay status is dependent on LPCI loop selection, loop 12 selection shown, if loop 11 selected opposite relay status is correct.

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ENCLOSURE 3

COPIES OF RESIDUAL HEAT REMOVAL SYSTEM SCHEMATICS

(3 Pages Follow)

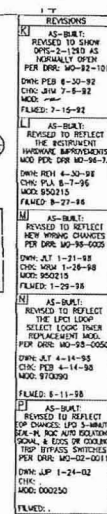
REVISIONS

S) AS-BUILT:
MISCELLANEOUS W.
CHANGES ON PER
PER DRR: 140-02
DRWG: JA 8-10-99
CHG: DA 8-14-99
MOD:
FIELD: 8-22-99

AS-BUILT:
REVISED TO REFLE
THE (OP LFCI 5-W
SEA-IN THER ST
SWITCH LOCATED
PER DRR: 140-01
DRWG: JUP 11-13-0
CHG: RJJ 11-14-0
MOD: 000250
FIELD: 11-16-01

U) AS-BUILT:
CORRECT LABELING ON
RELAY LOGIC CIRCU
TO HAVE REGARD
SUTHERN WEA
C022721
PER DRR: WD-03-5
DRWG: LM 8-22-03
CHG: MOD: 784036
FIELD:

[illegible]



RELAY LOGIC CIRCUIT B

