

The Light company

Houston Lighting & Power

South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

May 14, 1991
ST-HL-AE-3767
File No.: G02.04
10CFR 2.201

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

South Texas Project Electric Generating Station
Unit 1
Docket No. STN 50-498
Reply to Notices of Violation 9108-01 and 9108-02
Vital Distribution Panel Not Energized by
Associated Inverter and Failure to Lubricate Breaker

Houston Lighting & Power has reviewed the Notices of Violation issued as a result of NRC Inspection Report 9108 dated April 17, 1991, and submits the attached reply.

Please note that Notice of Violation 9108-01 has been fully addressed as the subject of the attached Licensee Event Report 91-006, "Class 1E 120 Volt AC Distribution Panel Energized by Alternate Power Supply in Violation of Technical Specification".

If you should have any questions on this matter, please contact Mr. C. A. Ayala at (512) 972-8628.

William J. Jump
William J. Jump
Manager,
Nuclear Licensing

RAD/kmd

Attachments: (1) Reply to Notices of Violation 9108-01 and 9108-02
(2) LER 91-006 (South Texas, Unit 1)
(3) LER 91-008 (South Texas, Unit 1)

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A Subsidiary of Houston Industries Incorporated

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Houston Lighting & Power Company
South Texas Project Electric Generating Station

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File No.: G02.04
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cc:

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Texas Department of Health
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Austin, TX 78756-3189

Revised 01/29/91

L4/NRC/

I. Statement of Violation:

1. TS 3.8.3.2 requires that, in Modes 5 and 6, four 120-volt A. C. vital distribution panels consisting of DP001, DP1201, DP002, and DP1204 be energized from their associated inverter connected to its respective dc Bus ElA11 and ElC11 (Unit 1) and E2A11 and E2C11 (Unit 2).

Contrary to the above, on February 23, 1991, between 1-1:55 p.m., with Unit 1 operating in Mode 6, 120-volt A. C. Vital Distribution Panel DP002 was not powered from its associated inverter.

This is a Severity Level IV violation. (Supplement I)
(498/9108-01)

2. TS 6.8.1.a requires, in part, that written procedures shall be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33, Section 1 requires written procedures for maintenance which can affect performance of safety-related equipment.

Procedure OPMP05-NA-0008, Revision 7, "Westinghouse 480-Volt Breaker Test", accomplishes testing and preventive maintenance of certain safety-related circuit breakers. Step 6.19.2.7 requires the lubrication of the breaker trip shaft points.

Contrary to the above, on March 2, 1991, an electrician was performing Procedure OPMP05-NA-0008, but failed to lubricate the breaker trip shaft points in accordance with Step 6.19.2.7. Failure to lubricate the breaker, as required, may affect proper breaker operation.

This is a Severity Level IV violation. (Supplement I)
(498-9108-02)

II. Houston Lighting & Power Position:

1. HL&P concurs that this violation occurred and attaches LER 91-006 in response to this violation. (See Attachment 2)
2. HL&P concurs that this violation occurred.

III. Reason for Violation:

1. See attached LER 91-006
2. The cause of this event was failure of the electrician to follow approved procedures due to inattention to work performance. Upon inspection of the breaker, the electrician decided that relubrication of the trip shaft was not needed, however, the procedure did not allow this option. On March 15, 1991, as

documented in the attached LER 91-008 (See Attachment 3), it was later determined that the breaker failed to remain closed due to failure to lubricate the breaker.

IV. Corrective Action:

1. See attached LER 91-006.
- 2a. The electrician who failed to properly lubricate the breaker has been counseled concerning this event. The counseling emphasized the importance of attention to detail and compliance with plant procedures.
- 2b. The Operational Improvement Program (OIP) addresses HL&P's initiatives to improve personnel performance. HL&P is continuing to take steps to enhance overall personnel performance as part of the OIP.
- 2c. See attached LER 91-008 for additional information.

V. Date of Full Compliance:

HL&P is in full compliance at this time.

The Light company

Houston Lighting & Power

P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

ATTACHMENT 2
ST-HL-AE-3767
PAGE 1 OF 6

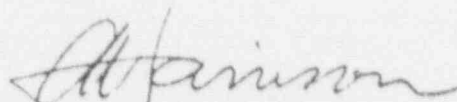
March 22, 1991
ST-HL-AE-3725
File No.: G26
10CFR50.73

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

South Texas Project Electric Generating Station
Unit 1
Docket No. STN 50-498
Licensee Event Report 91-006
Regarding Class 1E 120 Volt AC
Distribution Panel Energized by Alternate
Power Source in Violation of Technical Specification

Pursuant to 10CFR50.73, Houston Lighting & Power Company (HL&P) submits the attached Licensee Event Report (LER 91-006) regarding a Class 1E 120 volt AC distribution panel energized by alternate power source during core alterations in violation of Technical Specifications. This event did not have any adverse impact on the health and safety of the public.

If you should have any questions on this matter, please contact Mr. C. A. Ayala at (512) 972-8628.



A. W. Harrison
Manager
Nuclear Licensing

RAD/sgs

Attachment: LER 91-006 (South Texas, Unit 1)

9103280308

Houston Lighting & Power Company
South Texas Project Electric Generating Station

ST-HL-AE- 3725
File No.: G26
Page 2

ATTACHMENT 2
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PAGE 2 OF 6

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Revised 01/29/91

L4/NRC/

LICENSEE EVENT REPORT (LER)

APPROVED DATE AND TIME
EXPIRES 8 31 88

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ABSTRACT (Limit to 1400 spaces or approximately fifteen single space typewritten lines) (18)

On February 24, 1991, Unit 1 was in Mode 6 in its third refueling outage. At 0603 hours during performance of a surveillance test, it was discovered that the Class 1E 120 volt distribution panel DP002 was energized from its alternate power supply in violation of Technical Specification 3.8.3.2. Immediate actions were taken to restore the distribution panel to its proper alignment. The causes of this event were failure to coordinate the transfer of power to the distribution panel due to inadequate verbal communications and failure to monitor the associated alarms which annunciate in the control room during an undervoltage condition. Corrective actions include training of licensed and non-licensed operators, and an evaluation of the plant's numbering scheme for electrical panels.

100-51071001 01

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1): South Texas, Unit 1	DOCKET NUMBER (2): 0500049891	LER NUMBER (3):			PAGE (3): 02 OF 04
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	

TEXT (If more space is required, use additional NRC Form 365A (11/77))

DESCRIPTION OF EVENT:

On February 24, 1991, Unit 1 was in Mode 6 in its third refueling outage. At 0603 hours, during performance of the ESF Power Availability surveillance, it was discovered that the Class 1E 120 volt vital distribution panel DPO02 was energized from its alternate power supply. Core alterations (i.e., reactor vessel head was lifted approximately 2 inches) were performed between 1300 hours and 1355 hours on February 23, 1991 in violation of Technical Specification 3.8.3.2 which requires that distribution panel DPO02 be energized from its associated inverter or immediately suspend core alternations, positive reactivity changes or movement of irradiated fuel. Immediate actions were taken to restore distribution panel DPO02 to its proper alignment.

On February 22, 1991 at approximately 1925 hours, the Unit Supervisor advised a Reactor Operator (RO) that the non-class distribution panel DPO02 was scheduled to be transferred to the alternate power supply. The RO was informed that I&C technicians were standing by to take a toxic gas analyzer off line prior to the transfer to prevent a toxic gas actuation. The RO was also advised that the task had priority and a non-licensed operator was available for the job.

The RO instructed the non-licensed operator, utilizing an electrical diagram, to perform the power supply transfer on distribution panel DPO02 from normal to alternate after obtaining the appropriate procedure. The electrical diagram did not indicate that the distribution panel was Class 1E or non-class. In addition, the RO did not clearly indicate verbally which DPO02 panel was involved; Class 1E (identification number C1VADPO02) or non-class (identification number N1VCDPO02). The plant component identification numbering scheme establishes a unique number for each electrical device. However, it has been common practice to abbreviate the full number to a short hand useable number which resulted in what appears to be duplicate numbering of some devices.

The non-licensed operator incorrectly obtained the Class 1E inverter procedure, presented the procedure to the RO and asked if he should contact the Control Room prior to the transfer. Without verifying that the correct procedure was obtained, the RO advised the non-licensed operator that the associated alarms would indicate the transfer was complete and communications would be established at that time.

The RO instructed the I&C technicians to remove the toxic gas analyzer from service. The RO advised the non-licensed operator to transfer distribution panel DPO02 to the alternate power supply. Following completion of the transfer of the Class 1E 120 volt distribution panel to the alternate source (i.e., its associated inverter bypassed) the non-licensed operator contacted the RO as directed. However, the control room personnel failed to monitor the associated distribution panel alarms that annunciate due to undervoltage during a power transfer.

LER181071001.U1

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

ATTACHMENT 2
ST-HL-AI-3767
PAGE 5 OF 6NUCLEAR REGULATORY COMMISSION
APPROVED FOR NO. 3150-01-04
EXP. RES. 8-3-85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (3)		
		YEAR	SEQUENT. NUMBER	REVISION NUMBER			
South Texas, Unit 1	05000498	91	006	000	3	OF 04	

TEXT: If more space is required, use additional NRC Form 365A (1/17).

CAUSE OF EVENT:

The causes of this event are:

1. The Reactor Operator failed to coordinate the transfer of power to distribution panel DP002. The non-licensed operator received inadequate direction. A contributing factor was that although each distribution panel has a unique plant component identification number, an abbreviated numbering system is used to identify the distribution panels which is not unique.
2. Control Room personnel failed to monitor the associated distribution panel alarms that annunciate during an undervoltage condition for both the Class 1E and non-class distribution panels DP002.

ANALYSIS OF EVENT:

This event resulted in operation prohibited by Technical Specifications and is therefore reportable pursuant to 10CFR50.73(a)(2)(i). The inverter for distribution panel DP002 was fully functional although not aligned as required by Technical Specification 3.8.3.2. In addition, the redundant train was available and correctly powered from its associated inverter throughout this event.

A previous evaluation was conducted which determined that the most limiting condition in Modes 5 and 6 is a fuel handling accident. The safety analyses for a fuel handling accident do not assume a loss of offsite power (LOOP), therefore both radiation monitoring actuation trains would be assumed to be operable when the event initiated. In the event of a single failure, at least one train would generate the required actuation signal to the ventilation system. Therefore, it is concluded that there were no safety or radiological consequences as a result of this event.

CORRECTIVE ACTIONS:

The following corrective actions are being taken as a result of this event:

1. The Reactor Operator involved in this incident was counseled concerning this event emphasizing the importance of self verification and proper communications.
2. An evaluation of the plant's identification scheme for electrical panels will be performed to establish a scheme which will assure that devices are identified with a unique identification number. This new scheme will not require renumbering of these devices; however, it will provide a unique reference number. This evaluation will be completed by June 1, 1991. The new scheme will be put in use following the retraining in Action 3.

LER191071001.U1

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

ATTACHMENT 2

ST-HL-AE-3767

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U.S. NUCLEAR REGULATORY COMMISSION

APPROVED DATE AND SIGNATURE

EXPIRES 8/31/91

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (3)

PAGE (3)

South Texas, Unit 1

0500049891-006-0004 OF 04

TEXT (If more space is required, use additional NRC Form 2054 1, 117)

CORRECTIVE ACTIONS: (cont'd)

3. This event will be reviewed in the Licensed and Non-Licensed requalification. Training will emphasize the importance of self verification, proper communications and monitoring plant evolutions. This training will also include the new numbering scheme which will be used following the evaluation which will be performed (see Action 2). This action will be completed by July 15, 1991.

ADDITIONAL INFORMATION:

There has been one previous event (LER 90-017, Unit 2) regarding the misalignment of the Class 1E electrical distribution system during core alterations.

LER191071001 U1

The Light company

Houston Lighting & Power South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

ATTACHMENT 3
ST-HL-AE-3740
PAGE 1 OF 6

April 15, 1991

ST-HL-AE-3740

File No.: G26

10CFR50.73

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

South Texas Project Electric Generating Station
Unit 1

Docket No. STN 50-498

Licensee Event Report 91-008

Regarding Partial Loss of Offsite Power on
Trains A and B Caused by Inadequate Procedures

Pursuant to 10CFR50.73, Houston Lighting & Power Company (HL&P) submits the attached Licensee Event Report 91-008 regarding a partial loss of offsite power on Trains A and B of Unit 1 due to inadequate procedures. These events did not result in an adverse impact on the health and safety of the public.

If you should have any questions on this matter, please contact either Mr. C. A. Ayala at (512) 972-8628 or me at (512) 972-7205.

William J. Jump

William J. Jump
Manager,
Nuclear Licensing

PLW/amp

Attachment: LER 91-008 (South Texas, Unit 1)

9104720082

Houston Lighting & Power Company
South Texas Project Electric Generating Station

ST-HL-AE-3740
File No. 1G26
Page 2

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Revised 01/29/91

LICENSEE EVENT REPORT (LER)

APPROVED ONE NO. 2100-010
EXPIRES 8-31-91

FACILITY NAME (1): South Texas, Unit 1 DOCKET NUMBER (2): 050004981 OF 04

TITLE (4): Partial LOOP on Trains A and B Caused by Inadequate Procedures

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 NAMES	DOCKET NUMBER (S)																															
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POWER LEVEL (10): 0.010			<table border="0"> <tr> <td>20.402(x)</td> <td>20.406(x)</td> <td>X</td> <td>50.73(x)(1)(a)</td> <td>73.71(x)</td> </tr> <tr> <td>20.406(x)(1)(i)</td> <td>50.36(x)(1)</td> <td>X</td> <td>50.73(x)(2)(a)</td> <td>73.71(x)</td> </tr> <tr> <td>20.406(x)(1)(ii)</td> <td>50.36(x)(2)</td> <td></td> <td>50.73(x)(2)(b)</td> <td>OTHER (See Form Abstract below and Text NRC Form 760A)</td> </tr> <tr> <td>20.406(x)(1)(iii)</td> <td>50.73(x)(2)(i)</td> <td></td> <td>50.73(x)(2)(iii)(A)</td> <td></td> </tr> <tr> <td>20.406(x)(1)(iv)</td> <td>50.73(x)(2)(ii)</td> <td></td> <td>50.73(x)(2)(iii)(B)</td> <td></td> </tr> <tr> <td>20.406(x)(1)(v)</td> <td>50.73(x)(2)(iii)</td> <td></td> <td>50.73(x)(2)(iv)</td> <td></td> </tr> </table>									20.402(x)	20.406(x)	X	50.73(x)(1)(a)	73.71(x)	20.406(x)(1)(i)	50.36(x)(1)	X	50.73(x)(2)(a)	73.71(x)	20.406(x)(1)(ii)	50.36(x)(2)		50.73(x)(2)(b)	OTHER (See Form Abstract below and Text NRC Form 760A)	20.406(x)(1)(iii)	50.73(x)(2)(i)		50.73(x)(2)(iii)(A)		20.406(x)(1)(iv)	50.73(x)(2)(ii)		50.73(x)(2)(iii)(B)		20.406(x)(1)(v)	50.73(x)(2)(iii)		50.73(x)(2)(iv)	
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LICENSEE CONTACT FOR THIS LER (12): NAME: Charles Ayala - Supervising Licensing Engineer TELEPHONE NUMBER: 512 972-8628

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
A	E	D	0052	W120	Y				

SUPPLEMENTAL REPORT EXPECTED (14): YES (15) YES (16) COMPLETE EXPECTED SUBMISSION DATE: X NO EXPECTED SUBMISSION DATE (15): MONTH DAY YEAR

ABSTRACT (LIMIT TO 1400 CHARACTERS) (17): On March 15, 1991, Unit 1 was in mode 5 due to a refueling outage. The unit experienced a partial loss of offsite power (LOOP) to Train A at 1313 hours due to actuation of the unit auxiliary transformer pilot wire relay which opened a switchyard breaker. During recovery from the first LOOP, a LOOP occurred on Train B of Unit 1 at 1328 hours when a 13.8 KV standby bus feeder breaker was opened by a control room operator. Both LOOP events were due to inadequate procedures. The subject procedures will be revised appropriately. In addition, a Load Center feeder breaker failed to close due to inadequate lubrication. Work requests have been issued to address proper lubrication.

LER191098001.U1

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED ONE NO. 1-50-0104
EXP. RES. 4-01-95

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (4)
		YEAR	SEQUENT. NUMBER	REVISION NUMBER	
South Texas, Unit 1	0 5 0 0 0 4 9 8 9 1	0 0 8	0 0 0	2 OF 0 4	

TEXT: If more space is required, use additional NRC Form 3054a (1/77)

DESCRIPTION OF EVENT:

On March 15, 1991, Unit 1 was in mode 5 due to a refueling outage. The unit experienced a partial loss of offsite power (LOOP) to Train A at 1313 hours due to actuation of the unit auxiliary transformer pilot wire relay which opened a switchyard breaker.

Standby Diesel Generator (SDG) No. 11 started upon initiation of the Train A LOOP and the load was sequenced as expected. Control Room personnel commenced emergency restoration of power to equipment per procedure. During this process, a second LOOP occurred at 1328 hours when a control room operator opened 13.8 KV Standby Bus 1G feeder breaker to Essential Safety Feature (ESF) transformer ElB2. SDG No. 12 responded as expected, and load was sequenced through the 4.16 ESF bus.

At 1355 hours, the operator observed that all loads had not been properly sequenced following startup of SDG No. 12. Further investigation revealed the Class 1E 480V ElB2 Load Center feeder breaker had not remained closed, thus disabling the associated loads (RHR pump 1B, Motor Control Centers ElB2 and ElB4, and Reactor Containment Fan Cooler supply fan 21B). Power was restored to Load Center ElB2 at 1401 hours by closing the ElB1 to ElB2 tie breaker. This restored power to the associated equipment.

Offsite power was restored to Train A and Train B by 1412 hours via normal line-up configuration.

This event was initiated while maintenance personnel were performing routine preventive maintenance on the main transformer pilot wire protection system in accordance with procedures. (The pilot wire relay monitors and protects the high voltage line between the main transformer secondary and 345 KV switchgear Y510 circuit breaker.) One pilot wire relay is located in the control room and the other is in the switchyard. Per procedure, the switchyard relay was disabled and removed for testing and calibration. However, the procedure did not require disabling of the other pilot wire relay circuit, so that when the switchyard relay was removed from the circuit, the control room circuit opened the switchyard breaker.

CAUSE OF EVENT:

The LOOP on Train A resulted from a less than adequate procedure. Procedure OPMP05-ZE-0007, "Calibration of Westinghouse HCB-1 Relays," did not direct that both relays are to be isolated prior to removing one relay for test and calibration.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-004
EXPIRES 8/31/95

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
South Texas, Unit 1	0500049891	008	00	03	OF	04	

TEXT (If more space is required, use additional NRC Form 305A (1/77))

CAUSE OF EVENT: (cont'd)

The LOOP on Train B resulted from a less than adequate procedure. Procedure 1POPO4-AE-0006, "Loss of Offsite Power (LOOP) Recovery," assumes that a total loss of offsite power has occurred, rather than a partial LOOP. Actions to be taken when following this procedure are not necessarily appropriate for a partial LOOP. Specifically, the operator should not have manually opened the breaker while the train still had power.

The Load Center feeder breaker failed to remain closed due to failure to lubricate the breaker according to procedures. The individual who failed to properly lubricate the breaker had decided upon inspection that relubrication was not needed. Furthermore, the lubricant previously used was found to be an improper grade.

Failure of the operator to note until 1355 hours that all loads had not been properly sequenced was due to lack of attention to plant electrical power conditions.

ANALYSIS OF EVENTS:

Unplanned actuation of a Standby Diesel Generator is reportable pursuant to 10CFR50.73(a)(2)(iv). SDG Nos. 11 And 12 started and loaded as expected upon loss of offsite power.

Failure to successfully sequence the load on SDG No. 12 because of the open Load Center feeder breaker is reportable under 10CFR50.73(a)(2)(v). Residual Heat Removal (RHR) pump 1B could not operate due to the open feeder breaker. RHR pump 1A had not yet been loaded following the Train A LOOP. RHR pump 1C started when Train C was manually activated, but no RHR was active for approximately two minutes. Reportable conditions are those which could have prevented fulfillment of the safety function of systems used to remove residual heat. However, this event occurred near the end of a refueling outage, and need for RHR was minimal.

CORRECTIVE ACTIONS:

The following corrective actions are being taken as a result of this event:

1. Procedure OPMP05-ZE-0007 has been revised by addition of an instruction to isolate the protective circuitry prior to testing to prevent an inadvertent bus trip. No other procedures are affected by this concern.
2. A procedure governing line-up of 13.8 KV power sources will be developed which will provide more explicit instructions on recovering from a partial LOOP as well as a full LOOP. Completion is expected by July 31, 1991.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED ONE NO. 3-50-0-04
EXPIRES 8/1/85

FACILITY NAME (1): South Texas, Unit 1	DOCKET NUMBER (2): 0 5 0 0 0 4 9 8 9 1	LER NUMBER (6):			PAGE (3):		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 9 1	— 0 0 8	— 0 0 0	4	OF	0 4

TEXT (if more space is required, use additional NRC Form 2054 (1) (17))

CORRECTIVE ACTIONS: (cont'd)

3. Work requests have been issued to sample Westinghouse safety-related and nonsafety-related spare load center breakers to determine the extent of improper lubrication. Completion is expected by June 1, 1991.
4. In addition to the misleading procedure IPOP04-AE-0006, the operator neglected to confirm that Train B had actually incurred a LOOP. Consequently, opening the feeder breaker resulted in a Train B LOOP. The operator involved in the Train B LOOP has been counselled as to the importance of paying attention to plant electrical power conditions.
5. The individual who failed to properly lubricate the breaker has been counselled. The counselling emphasized procedural compliance and stressed attention to detail.

ADDITIONAL INFORMATION:

As reported in Unit 1 LER 89-006, a partial loss of offsite power occurred on Engineered Safety Feature Train A due to inadvertent actuation of a generator breaker test switch by an unlicensed plant operator. Offsite power to Trains B and C was not affected.

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