(7-77)

LICENSEE EVENT REPORT

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1	S C H B R 2 (2)	0 0 - 0 0 0 0 0 - 0 0 (3)	4 1 1 1 1 (4)	(5)
7	8	9 LICENSEE CODE 14	15 LICENSE NUMBER 25	26 LICENSE TYPE 30	57 CAT 58

CON'T

0	1	REPORT SOURCE L (6)	0 5 0 0 0 2 6 1 (7)	0 9 0 1 7 8 (8)	1 0 0 2 7 8 (9)
7	8	60	61 DOCKET NUMBER 68	69 EVENT DATE 74	75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 At 0625 hours, during normal operation on September 1, 1978, a momentary loss of

0 3 480 volt 3 phase AC power to MCC-5 occurred. This MCC supplies power to some

0 4 redundant safeguards equipment. This failure was evidenced by momentary loss, then

0 5 return, of certain control indicators on the RTGB. Operating equipment that had

0 6 stopped was restarted from the RTGB without difficulty. This constitutes a reporta-

0 7 ble occurrence per Technical Specifications Paragraph 6.9.2.b.2.

0 8

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
0 9	E B (11)	E (12)	X (13)	C K T B R K (14)	E (15)	Z (16)

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	7 8	—	0 2 1	/	0 3	L	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
X (18)	F (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	Y (24)	N (25)	W 1 2 1

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 Decreasing spring tension in one knife blade contact of a Westinghouse Electric

1 1 Company Safety Switch, Model KF-600, was the root cause. This switch will be

1 2 replaced by two large, key-interlocked circuit breakers during implementation of a

1 3 plant modification presently being developed.

1 4

	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
1 5	E (28)	1 0 0 (29)	NA	A (31)	Operator Observation

	ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
1 6	Z (33)	Z (34)	NA	NA

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION (39)
1 7	0 0 0 (37)	Z (38)	NA

PERSONNEL INJURIES

	NUMBER	DESCRIPTION (41)
1 8	0 0 0 (40)	NA

LOSS OF OR DAMAGE TO FACILITY (43)

	TYPE	DESCRIPTION
1 9	Z (42)	NA

7810100048

PUBLICITY

	ISSUED	DESCRIPTION (45)	NRC USE ONLY
2 0	N (44)	NA	

NAME OF PREPARER R. B. Starkey, Jr. PHONE: (803) 332-1351

Supplemental Information

for

Licensee Event Report No. 78-21

1. Cause Description and Analysis:

Decreasing spring tension of a knife blade switch contact was the apparent cause of this occurrence. The switch is used to transfer the power source of MCC-5 from 480 Volt Emergency Buss E-1 to an alternate source, 480 Volt Buss No. 3, during refueling shutdown testing. The switch is not operated during normal plant operation. Apparently, as spring tension decreased, the switch's contact resistance on phase B increased resulting in heating of the contact and associated wiring terminal evidenced by discoloration of the wire insulation adjacent to the terminal. The heating caused the contact surfaces to oxidize and also hastened further loss of spring tension. This process apparently continued until a significant voltage drop occurred across phase B switch contact. At this time, devices operating from MCC-5 deriving control power from phase B were unable to continue operation because of their contactors "dropping out" due to the undervoltage present. It is believed that the rapid load shed on phase B induced a momentary voltage spike on the buss of sufficient amplitude to break down the oxidized switch contact surfaces restoring electrical conductivity of the switch. Indicator lights on the RTGB for certain equipment, thus, went off momentarily and then came back on, and in the process changed from "equipment on" to "equipment off" status for those components. The operator observed this and immediately restarted the affected equipment without difficulty.

After the occurrence, the transfer switch was summarily inspected to determine its condition. Contact resistance of each of the three contacts in the switch was determined by measuring load current and the voltage drop across each of the three contacts. Load current at the time of measurement was 200 amps, equal, per phase. Voltage across A and C contacts measured 0.10 volt each and B contact measured 0.20 volt. Thus, contact resistance was 0.0005 ohms for A and C and 0.0010 ohms for contact B. No previous occurrence of this type has been recorded. Equipment affected by the occurrence is listed as follows:

HVH-9A	R-21 Vacuum Pump	SW Valve V6-35A
HVE-2A	SW Valve V6-33A	H.P. Seal Oil Backup Pump
'A' SW Booster Pump	SW Valve V6-34A	'A' Battery Charger

Supplemental Information

for

Licensee Event Report No. 78-21

1. Cause Description and Analysis Continued:
There was no damage to any plant equipment, no personnel injuries or exposures and no radioactive release. Public health and safety were not affected by this occurrence.

2. Corrective Action:
The transfer switch was refurbished while at cold shutdown conditions on September 26, 1978. During the course of repairs and refurbishing of the switch, the analysis of the cause of the occurrence was further confirmed. The switch was cleared for repairs at 1118 hours and returned to service at 1644 hours.

3. Corrective Action to Prevent Further Non-Compliance:
A plant modification, presently being developed, details replacement of this transfer switch with two large key-interlocked circuit breakers. The breakers will upgrade the safety and reliability of MCC-5. Planned implementation is scheduled during the 1979 refueling outage.