NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

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

0 1 | N E F C S 1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | | (5)
LICENSEE CODE — LICENSE NUMBER — LICENSE TYPE — CAT

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0 1 | REPORT SOURCE L (6) | 0 5 0 0 0 2 8 5 (7) | 0 7 1 4 8 2 (8) | 0 7 2 6 8 2 (9)
DOCKET NUMBER — EVENT DATE — REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 During steady state power operation, it was noted that the "B" channel of the reactor
0 3 protective system "Axial Power Distribution" unit had a negative axial shape index
0 4 setpoint which was out-of-tolerance. The setpoint had drifted in a non-conservative
0 5 direction. The "B" channel for Axial Power Distribution was bypassed and a mainte-
0 6 nance order was written to investigate the problem. Throughout the incident, the
0 7 redundant RPS Axial Power Distribution channels (A, C & D) remained operable and
0 8 available to perform their design function of initiating a reactor trip if necessary.

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
0 9	I A (11)	E (12)	A (13)	I N S T R U (14)	S (15)	Z (16)

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	8 2	—	0 1 6	/	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)	Z (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	N (24)	N (25)	G 2 2 3 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 The "Flow Dependent Setpoint Selector Switch" was determined to have a dirty contact
1 1 which caused the "B" Axial Shape Index channel negative setpoint to drift. The
1 2 switch contact was burnished/cleaned by operating the switch between the 4-pump and
1 3 3-pump positions several times. Subsequently, the negative Axial Shape Index set-
point returned to allowable readings as verified by Surv. Test ST-RPS-12, F.2. The
1 4 RPS will continue to be monitored by both visual inspection and surveillance testing
to detect future problems.

	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
1 5	E (28)	0 9 9 (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

PUBLICITY

	ISSUED	DESCRIPTION (45)
2 0	N (44)	NA

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PDR ADOCK 05000285
S PDR

NRC USE ONLY

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LER No. 82-016
Omaha Public Power District
Fort Calhoun Station Unit No. 1
Docket No. 05000285

Attachment No. 1

Safety Analysis

The Fort Calhoun Station Reactor Protective System (RPS) is designed such that no single channel failure can prevent the safe shutdown of the plant if required. During the inoperability of the Axial Power Distribution (APD) "B" channel, the three remaining APD trip channels (A, C, and D) were operable and functioning at their appropriate setpoints. Since the "B" channel was immediately placed in the bypassed condition, the APD channels were then operable in a two-out-of-three trip logic until the "B" channel was repaired and retested for proper operation per applicable sections of Surveillance Test ST-RPS-12, F.2.

The upper and lower trip setpoints for the APD channels of the RPS are checked each shift with axial shape index indications per Surveillance Test ST-RPS-12, F.1. The APD channel pre-trip and trip setpoints are also tested and verified monthly per Surveillance Test ST-RPS-12, F.2. These surveillance tests ensure the APD channels and trip setpoints are properly functioning and will detect setpoint drifting or system malfunction.

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Attachment No. 2

Corrective Action

Resulting from the maintenance order investigation, it was postulated that the "B" channel "Flow Dependent Setpoint Selector Switch" had a dirty contact which was causing the Axial Shape Index negative setpoint to drift. Since this switch is sealed in an enclosure, the switch contact could not be cleaned via normal methods. However, the switch contact was cleaned/burnished by rotating the switch several times between the "4-pump" and "3-pump" positions. This resulted in adequate cleaning as the setpoint for the negative Axial Shape Index returned within tolerance. The applicable sections of Surveillance Test ST-RPS-12, F.2 were then satisfactorily performed to verify the correct system setpoints and the "B" channel for Axial Power Distribution was returned to service.

No further corrective action, other than continued monitoring of the RPS setpoints via shift channel checks and surveillance testing, as detailed in Attachment No. 1, is planned or scheduled at this time.

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Attachment No. 3

Failure Data

This is the first occurrence at the Fort Calhoun Station of a Flow Dependent Setpoint Selector Switch contact causing an APD channel to drift out-of-setpoint tolerance.