NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

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

Line	Field	Entry
01	Licensee Code (2)	O H D B S 1
01	License Number (3)	0 0 - 0 0 0 0 0 - 0 0
01	License Type (4)	4 1 1 1 1
01	CAT (5)	
CON'T 01	Report Source (6)	L
01	Docket Number (7)	0 5 0 0 0 3 4 6
01	Event Date (8)	0 6 2 5 8 1
01	Report Date (9)	0 7 2 4 8 1

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 (NP-33-81-45) On 6/25/81 during a routine recovery following a reactor trip, a control
03 room operator discovered that control rod (CR) 5-8 was not moving while withdrawing
04 group 5. CR 5-8 was declared inoperable at 0530 hours, placing the unit in action
05 statement (a) of T.S. 3.1.3.1. There was no danger to the health and safety of the
06 public or station personnel. The unit was in the hot standby mode at the time of the
07 event, and the existence of an adequate shutdown margin was verified.
08

09	System Code (11)	Cause Code (12)	Cause Subcode (13)	Component Code (14)	Comp. Subcode (15)	Valve Subcode (16)
	R B	E	B	C R D R V E	Z	Z

LER/RO Report Number (17)	Event Year		Sequential Report No.		Occurrence Code	Report Type		Revision No.
	8 1	—	0 3 8	/	0 3	L	—	0

Action Taken (18)	Future Action (19)	Effect on Plant (20)	Shutdown Method (21)	Hours (22)	Attachment Submitted (23)	NPRD-4 Form Sub. (24)	Prime Comp. Supplier (25)	Component Manufacturer (26)
C	X	C	Z	0 0 0 0	Y	Y	N	B 0 1 5

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 The cause was a component failure. The leaf spring anti-rotational device of the
11 leadscrew nut assembly had fractured into several fragments, consequently, preventing
12 the leadscrew from rising. The leadscrew nut assembly was replaced, and all fragments
13 were retrieved. CR 5-8 was declared operable on 7/17/81 at 1020 hours.
14

Line	Facility Status (28)	% Power (29)	Other Status (30)	Method of Discovery (31)	Discovery Description (32)
15	D	0 0 0	NA	A	Control room operator observation

Line	Activity Released (33)	Content of Release (34)	Amount of Activity (35)	Location of Release (36)
16	Z	Z	NA	NA

PERSONNEL EXPOSURES

Line	Number (37)	Type (38)	Description (39)
17	0 0 0	Z	NA

PERSONNEL INJURIES

Line	Number (40)	Description (41)
18	0 0 0	NA

LOSS OF OR DAMAGE TO FACILITY (43)

Line	Type (42)	Description
19	Z	NA

PUBLICITY

Line	Issued (44)	Description (45)
20	N	NA

8108040630 810724
PDR ADOCK 05000346
S PDR

NRC USE ONLY

DVR 81-094

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TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER STATION UNIT ONE
SUPPLEMENTAL INFORMATION FOR LER NP-33-81-45

DATE OF EVENT: June 25, 1981

FACILITY: Davis-Besse Unit 1

IDENTIFICATION OF OCCURRENCE: Inability to withdraw control rod 5-8 following reactor trip

Conditions Prior to Occurrence: The unit was in Mode 3 with Power (MWT) = 0 and Load (Gross MWE) = 0

Description of Occurrence: During a routine recovery following a reactor trip, the Control Room operator discovered that control rod 5-8 was not moving while withdrawing group 5. Several attempts were made to latch and withdraw control rod 5-8 but the rod remained in the fully inserted position. Control rod 5-8 was declared inoperable at 0530 hours on June 25, 1981, which placed the unit in action item "a" of Technical Specification 3.1.3.1. Action item "a" requires that the shutdown margin requirement of Technical Specification 3.1.1.1 be satisfied, and that the unit be placed in hot standby within the next six hours. Both required actions were complied with.

Designation of Apparent Cause of Occurrence: The apparent cause of this occurrence was a component failure. The leaf spring anti-rotational device of the leadscrew nut assembly had fractured into several fragments, some of which lodged between the buffer spring assembly and the lead screw, which prevented the leadscrew from rising. No evidence was revealed to indicate the reason for the component failure.

Analysis of Occurrence: There was no danger to the health and safety of the public or to station personnel. The unit was in the hot standby mode at the time of the event, and the existence of an adequate shutdown margin was verified. This fulfilled the action requirements of Technical Specification 3.1.3.1.

A detailed engineering evaluation will be conducted to determine the reason for the leaf spring failure. Based on prior operating experience with control rod drive mechanisms during which no leaf spring failures have been reported, Babcock and Wilcox feel that there is a low probability of a similar event occurring.

Corrective Action: With the reactor plant cooled down, depressurized, and drained to support maintenance, a drive line check was performed on the C-7 control rod drive mechanism which normally operates control rod 5-8. The drive line check was conducted under Maintenance Work Order (MWO) 81-2676 to determine whether the binding problem was occurring in the core or in the drive mechanism. It was determined that the leadscrew was stuck since it could not be withdrawn while uncoupled from the control rod assembly. The C-7 control rod drive mechanism was removed under MWO 81-2717

and disassembled under MWO 81-2726. During disassembly, it was discovered that the leaf spring anti-rotational device of the leadscrew nut assembly had fractured into several fragments, some of which lodged between the buffer spring assembly and the leadscrew, which prevented the leadscrew from rising. The leadscrew nut assembly was replaced during reassembly, and a new torque tube assembly minus the torque taker assembly, was installed due to damage sustained during disassembly when the snubber guide galled on the torque tube. All fragments from the broken leadscrew nut assembly were retrieved. The C-7 control rod drive mechanism was reassembled under MWO 81-2726 and reinstalled under MWO 81-2725. The drive line check was again performed on July 8, 1981 which demonstrated freedom of movement of the control rod assembly by raising the leadscrew and associated control rod assembly two inches with a hoist and spring scale. The control rod program verification was satisfactorily performed per Surveillance Test ST 5013.03 on July 15, 1981 and plant heatup commenced. Surveillance Test ST 5013.02, Control Rod Insertion Time Test, was performed and at 1020 hours on July 17, 1981, control rod 5-8 was declared operable, which removed the unit from Technical Specification 3.1.3.1, action item "a".

Failure Data: There have been no similar occurrences.