NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Davis-Besse Unit 1	0 5 0 0 0 3 4 6	1 OF 0 3

TITLE (4)

Inadvertent Turbine Trip From 70 Percent Full Power

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)
0 9	1 1	8 4	8 4	— 0 1 3	— 0 1	0 7	2 5	8 5		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 7 0	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Jan Stotz	4 1 9 — 2 4 9 - 5 0 0 0

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
A	J I	L S	M 0 4 0	N							
X	S B	P S V	C 6 0 0	Y							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

Davis-Besse was operating at approximately 70 percent of full power during the power coastdown of cycle 4. The refueling outage was scheduled to begin on September 14, 1984, and Maintenance personnel were positioning the rotor lifting beam onto the turbine deck in preparation for the outage. A 12 inch by 12 inch timber being used as dunnage was inadvertently slid into the piping supporting the moisture separator reheater high water level switch. The switch activated, tripping the turbine at 1235:17 hours. The Anticipatory Reactor Trip System tripped the reactor in response to the turbine trip.

The post trip plant response was as expected. Since the unit was in the outage burnup window, it was decided to begin the refueling outage. A plant cooldown was initiated.

8508080307 850725
PDR ADOCK 05000346
S PDR

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Davis-Besse Unit 1	0 5 0 0 0 3 4 6	8 4	— 0 1 3	— 0 1	0 2 OF 0 3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Description of Occurrence: On September 11, 1984 at 1235 hours, Davis-Besse experienced a turbine trip from 70 per cent full power. The turbine trip initiated an Anticipatory Reactor Trip System, ARTS, (JD) trip of the reactor. The post trip response was normal for a trip from 70 per cent full power. Pressurizer (PZR) level remained on scale, and minimum Reactor Coolant System, RCS, (AB) pressure was about 1880 psig. The Power Operated Relief Valve, PORV, (PSV) was not operated. Adequate subcooling margin existed at all times. The #1 Atmospheric Vent Valve, AVV (PSV) did not fully reseat on its own and operators had to lower steam header pressure to get it to reseat.

Since the unit was in the outage burnup window it was decided to begin the refueling outage. A Plant cooldown was initiated.

Later in the cooldown, in Mode 3, with one Reactor Coolant Pump, RCP (P) shutdown, operators had difficulty balancing pressure in the two Once Through Steam Generators, OTSG. At 0109 hours on September 12, 194, the station received a Steam and Feedwater Rupture Control System SFRCS, (JB) trip from low pressure in OTSG #1. This initiated another ARTS trip of the reactor.

Designation of Apparent Cause of Occurrence: The cause of the trip was an error by personnel positioning a rotor lifting beam on the turbine deck in preparation for the refueling outage turbine work. A 12 x 12 inch timber being used as dunnage was inadvertently slid into the piping which supports the Moisture Separator Reheater, MSR, (SB) High Water Level Switch (LS). The bump caused the switch to actuate. The switch is intended to cause the turbine to be isolated when the water level gets too high in the MSR. This is to protect the turbine from damage that would occur if water hit the blades. The switch caused the turbine to trip which initiated an ARTS trip of the Reactor.

The cause of the #1 AVV not fully reseating was determined to be in the valve control circuit specifically the air control solenoids which are in need of replacement or refurbishment.

The cause of the SFRCS trip on September 12, 1984 was that the Plant Shutdown and Cooldown Procedure PP 1102.10 did not adequately cover an RCS cooldown using the Main Feed Pump Turbine, MFPT (SJ). This change in method of shutting down is due to not being able to use the Startup Feedpump due to pipe break criteria, (See LER 84-009.)

Analysis of Occurrence: The reactor was tripped by ARTS before any Reactor Protection System, RPS (JD) trip setpoint was reached. The PORV was not challenged. Adequate subcooling margin existed at all times. OTSG water levels were properly controlled. The AVV failure to fully reseat did not have a significant safety consideration since the valve was only slightly open. The leakage was not sufficient to affect steam pressure.

Corrective Action: The maintenance workers who actuated the switch were counseled on being more careful around operating equipment.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Davis-Besse Unit 1	0 5 0 0 0 3 4 6	8 4	— 0 1 3	— 0 1	0 3 OF 0 3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Facility Change Request, FCR, 84-0207 will install permanent guard rails around the MSR high level switches. FCR 85-0083 has been written to provide a two out of three trip scheme for the MSR high level trip by adding two additional level switches to the existing sensing leg. It also provides guard rails around these additional level switches.

1 The AVV air control solenoid valves were replaced during the 1984 Refueling Outage under FCR 82-125.

The Plant Shutdown and Cooldown Procedure, PP 1102.10, was modified on September 28, 1984, to provide guidance for an RCS cooldown using the Main Feed Pump Turbine due to not being able to use the Startup Feed Pump. On January 15, 1985, the Station received License Condition 2.c(3)(t) which allows operation of the Startup Feed Pump. PP 1102.10 was modified and now reflects the conditions that must be met.

Failure Data: The previous occurrence of this level switch being bumped causing a turbine trip was not reportable per the guidelines in effect prior to 1984.

Report No: NP-33-84-13 DVR No(s): 84-142, 84-143

TOLEDO EDISON

July 25, 1985

Log No. K85-1135
File: RR 2 (NP-33-84-13)

Docket No. 50-346
License No. NPF-3

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Gentlemen:

Enclosed is Revision 1 to Licensee Event Report 84-013. Please replace your previous copies of this report with the attached revision.

Yours truly,

Stephen M. Quennoz
Plant Manager
Davis-Besse Nuclear Power Station

SMQ/ljk

Enclosure

cc: Mr. James G. Keppler,
Regional Administrator,
USNRC Region III

Mr. Walt Rogers
DB-1 NRC Resident Inspector

IE22
1/1

JCS/001