TOLEDO EDISON

EDISON PLAZA
300 MADISON AVENUE
TOLEDO, OHIO 43652-0001

May 3, 1990

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License No. NPF-3

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Gentlemen:

LER 90-006
Davis-Besse Nuclear Power Station, Unit No. 1
Date of Occurrence - April 3, 1990

Enclosed please find Licensee Event Report 90-006 which is being written to provide 30 days notification of the subject occurrence. This report is being submitted in accordance with 10CFR50.73(a)(2)(iv).

Yours truly,

Louis F. Storz

Louis F. Storz
Plant Manager
Davis-Besse Nuclear Power Station

LFS/plf

Enclosure

cc: Mr. A. Bert Davis
Regional Administrator
USNRC Region III

Mr. Paul Byron
DB-1 NRC Sr. Resident Inspector

IE22
1/1

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Davis-Besse Unit No. 1	0 5 0 0 0 3 4 6	1 OF 0 3

TITLE (4)
Inadvertent SFAS Actuation While Defueled When Breaker Switch HAAE2 Was Bumped Open

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 5 0 0 0
0 4	0 3	9 0	9 0	— 0 0 6	— 0 0	0 5	0 3	9 0		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
D		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 1 0		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 C. Stotz, Engineer - Maintenance Planning	4 1 9 3 2 1 - 7 5 4 4

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	

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)

On April 3, 1990, at 0905 hours, with the reactor defueled, the station experienced a Safety Features Actuation System (SFAS) Level 1 through 5 actuation. It was initiated by an accidental bumping of a breaker switch. When the switch opened, it de-energized a bus and resulted in the loss of power to SFAS Channels 1 and 3. This caused a full SFAS logic actuation. Being defueled, most Engineered Safety Feature Systems had been disabled to prevent inadvertent actuation. As a result of the automatic opening of one of the isolation valves, the boundary of an ongoing hydrotest changed, and an open drain line was exposed to 500 psig. The clothing of one worker was contaminated. Operations management held meetings with all craft personnel to discuss the importance of being careful around plant equipment and the consequences of this event.

The NRC was notified via the ENS under 10CFR50.72(b)(2)(ii). This is being reported as an LER under 10CFR50.73(a)(2)(iv) as an automatic actuation of ESF equipment.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Davis-Besse Unit No. 1	0 5 0 0 0 3 4 6	9 0	— 0 0 6	— 0 0	0 2 OF 0 3

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

Description of Occurrence:

On April 3, 1990, at 0905 hours, with the reactor defueled, the station experienced an inadvertent Safety Features Actuation System (SFAS-JE) Levels 1 through 5 actuation. Being defueled, most Engineered Safety Features (ESF) Systems had been disabled to prevent inadvertent actuations. Equipment that did actuate included the ventilation dampers, containment isolation valves, and Emergency Diesel Generator (EDG) 1-2. One of the isolation valves that actuated was HP2A. This changed the boundary of an ongoing hydrotest, and an open drain line was exposed to 500 psig. The clothing of one worker was contaminated.

This is being reported under 10CFR50.73(a)(2)(iv) as an automatic actuation of ESF equipment. The NRC was notified via the ENS under 10CFR50.72(b)(2)(ii).

Apparent Cause of Occurrence:

This event initiated when a contract electrician made accidental contact with breaker switch HAAE2 in the #2 High Voltage Switchgear Room. The switch opened and de-energized bus E2. This caused a loss of power to instrument bus YAR. Due to outage maintenance and modifications, the station was in an abnormal but allowable bus lineup with both Y1 and Y3, 120 VAC Essential Buses, powered by YAR. When YAR de-energized, the loss of power to Y1 and Y3 caused a loss of power to SFAS Channels 1 and 3, respectively. This satisfied the necessary logic for a full SFAS actuation.

Contributing to this event is the design of the SFAS logic which prevents bypassing or de-energizing without causing an output signal which fails equipment to their safety position. Much of the equipment was de-energized and secured when the plant reached modes that no longer required the equipment. However, some equipment was still in use such as ventilation into containment and station air. In some cases, a system had been disabled by opening the breaker for the pump, but associated valves were not disabled because the system would not be able to function with the pump already disabled.

Analysis of Occurrence:

The Technical Specifications do not require SFAS to be operable with the reactor defueled. There is no credible design basis accident in this configuration. There is no safety significance to this event.

Corrective Actions to Prevent Recurrence:

Power was restored to bus E2 at 0930 hours. By 0935 hours, Y1 and Y3 were re-energized. By 1115 hours, all actuated equipment was restored to its pre-actuated status.

Operations management held information meetings with all craft to discuss the importance of being careful around plant equipment and the consequences of this event.

Failure Data:

The previous inadvertent SFAS actuation was reported on LER 89-017. That event was caused by a failed relay in one SFAS Channel that was not detected prior to testing a second channel. The next previous event was reported in LER 88-012 in which two containment radiation monitors were tripped during a refueling outage when personnel passed too close to them with radioactive waste material being removed from containment. Neither of these events had causes related to this event.

REPORT NO.: NP33-90-007

PCAQ NO.: 90-0275 & 90-0277