



A General Energy Company

EDISON PLAZA
300 MADISON AVENUE
TOLEDO, OHIO 43652-0001

AB-92-0010
NP-33-92-001

Docket No. 50-346

License No. NPF-3

March 10, 1992

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

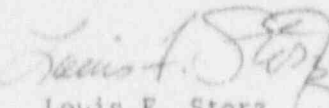
Gentlemen:

LER 92-001

Davis-Besse Nuclear Power Station, Unit No. 1
Date of Occurrence - February 10, 1992

Enclosed please find Licensee Event Report 92-001, which is being submitted to provide 30 days written notification of the subject occurrence. This LER is being submitted in accordance with 10 CFR 50.73(a)(2)(i).

Very truly yours,


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

LFS/ed

Enclosure

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

Mr. William Levis
DB-1 NRC Sr. Resident Inspector

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-370), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Davis-Besse Unit No. 1

DOCKET NUMBER (2)

050003461 OF 05

PAGE (3)

TITLE (4)

Entry Into T.S. 3.0.3 Due To Inoperable Containment Hydrogen Analyzers

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)
02	10	1992	1992	001		02	10	1992		050003461

OPERATING MODE (9)

1

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5 (Check one or more of the following) (11)

20.402(b)

20.405(c)

60.73(a)(2)(iv)

73.71(b)

POWER LEVEL (10)

11010

20.405(a)(1)(ii)

60.36(a)(1)

60.73(a)(2)(iv)

73.71(c)

20.405(a)(1)(iii)

60.36(a)(2)

60.73(a)(2)(vii)

OTHER (Specify in Abstract below and in Text, NRC Form 266A)

20.405(a)(1)(iv)

60.73(a)(2)(i)

60.73(a)(2)(viii)(A)

20.405(a)(1)(iv)

60.73(a)(2)(ii)

60.73(a)(2)(viii)(B)

20.405(a)(1)(v)

60.73(a)(2)(iii)

60.73(a)(2)(viii)(C)

LICENSEE CONTACT FOR THIS LER (12)

NAME

TELEPHONE NUMBER

Mark A. Turkal, Engineer - Nuclear Licensing

419 31211-1737

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

YES (If you complete EXPECTED SUBMISSION DATE)

NO

ABSTRACT (Limit to 1400 spaces, i.e., approximately 7 lines single space typewritten lines) (16)

On February 10, 1992 at 1843, with the plant in Mode 1, it was discovered that both channels of the Containment Hydrogen Analyzer were inoperable. Channel 2 of the Containment Hydrogen Analyzer had been removed from service for maintenance at approximately 0010 and the action statement for Technical Specification (TS) 3.6.4.1, which allows operation for 30 days with one inoperable hydrogen analyzer, was entered. At 1820 the Assistant Shift Supervisor was notified that computer point A302, CTET H2 Channel 1, was in the alarm state. An investigation was initiated and the AC input breaker associated with Channel 1 was verified to be open. TS 3.0.3 was entered at 1843. The breaker was closed at 1846 and TS 3.0.3 was exited. No power reduction occurred due to the short time in TS 3.0.3.

The Channel 1 Containment Hydrogen Analyzer AC input breaker was replaced on February 20, 1992. Amendment 168 to the Davis-Besse Operating License was implemented on February 11, 1992. This amendment revised TS 3/4.6.4.1 to address inoperability of both hydrogen analyzers. An Operations Night Order was issued on February 14, 1992 which requires review of the computer alarms list at least twice per shift with logging of this review and any actions taken in response to computer alarms. A review team has been formed to address possible improvements in the computer alarm system.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED FIFTEEN PER RESPONSE TO COMPLY WITH THIS INFORMATION. TO LECTURE REQUEST 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH, P-6301, U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (3)

PAGE (3)

Davis-Besse Unit No. 1

05000346

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TEXT BY PHONE FORM IS REQUEST. USE ADDITIONAL NRC Form 366A's (17)

Description of Occurrence:

On February 10, 1992 at 1843, with the plant in Mode 1, it was discovered that both channels of the Containment Hydrogen Analyzer (IK) were inoperable. Channel 2 of the hydrogen analyzer had been removed from service for maintenance at approximately 0010 and the action statement for Technical Specification 3.6.4.1, which allows operation for 30 days with one inoperable hydrogen analyzer, was entered.

A review of the computer alarm records was initiated after a reactor operator noted a below scale reading on Containment Hydrogen Analyzer Channel 1. During this review, it was discovered that computer point A302, CTMT H2 Channel 1, had entered the alarm state at 0852. The Assistant Shift Supervisor was notified of this condition at 1330. An investigation was initiated and at 1843 the AC input breaker associated with Channel 1 was verified to be open. Technical Specification 3.0.3 was entered at 1843 because the action statement in Technical Specification 3.6.4.1 did not contain a provision for two inoperable channels of the hydrogen analyzer. At 1846, the breaker was closed, a channel test was performed which demonstrated the operability of Channel 1 of the hydrogen analyzer, and Technical Specification 3.0.3 was exited. No power reduction occurred because Technical Specification 3.0.3 was only in effect for three minutes.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(.) as a condition prohibited by the plant's technical specifications.

Apparent Cause of Occurrence:

The cause of this event was the inadvertent opening of the Channel 1 hydrogen analyzer AC input breaker while Channel 2 was removed from service. This required entry into Technical Specification 3.0.3 since both channels of the Containment Hydrogen Analyzer were out of service and the action statement in Technical Specification 3.6.4.1 did not contain a provision for two inoperable channels of the hydrogen analyzer.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REGISTRY: 100 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DUCKET NUMBER (2)

LER NUMBER (8)

PAGE (3)

YEAR SEQUENTIAL REVISION
NUMBER NUMBER NUMBER

Davis-Besse Unit No. 1

0 5 0 0 0 3 4 6 9 2 - 0 0 1 - 0 0 0 3 OF 0 5

TEXT (if more space is required, use additional NRC Form 366A) (17)

Apparent Cause of Occurrence(Continued):

The inadvertent opening of the Channel 1 hydrogen analyzer AC input breaker can most probably be attributed to a malfunction of the breaker. Maintenance personnel were at the hydrogen analyzer cabinet when the breaker opened. Both channels of the hydrogen analyzer are located in this cabinet, separated by a metal barrier. The maintenance personnel had the doors to each side of the cabinet open in order to compare the configuration of Channel 2 circuitry to that of Channel 1. During this comparison, the Channel 1 breaker box cover appeared loose and was touched to determine if this was the case. Due to the level of noise in the area, the tripping of the breaker would not have been audible. While opening of the breaker could be due solely to mechanical shock induced by the maintenance personnel, it is believed that their actions would not have been sufficient to jar the breaker open. This scenario is supported by a previous incident, in January 1992, when the breaker was inexplicably found open during performance of a channel calibration prior to returning Channel 1 to service.

During the review of this event, it was determined that enhancements to the control room alarm system are warranted. Anomalies exist in the computer alarm system which contribute to the number of continuous and extraneous computer alarms. In addition, neither the screen display or the hardcopy printout of the computer alarms provides an indication of which alarms are associated with Technical Specification equipment. This makes it more difficult for the operators to determine the appropriate action for each alarm. As a result of these problems, the confidence of operations personnel in the computer alarm system has been reduced.

Analysis of Occurrence:

The safety significance of this event is minimal. There were no plant transients or automatic or manually initiated safety system responses during the approximately nine hours when both channels of the hydrogen analyzer were inoperable.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-540), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (1-001041) OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Davis-Besse Unit No. 1	0500034692	00	01	00	04	OF 05

TEXT (IF MORE SPACE IS REQUIRED, USE ADDITIONAL NRC Form 286A's (17))

Analysis of Occurrence (Continued):

The hydrogen analyzers are designed to monitor containment atmosphere. Operability of the containment analyzers ensures that indication of containment hydrogen concentration is available following a loss of coolant accident (LOCA). Had a LOCA occurred during the period when both hydrogen analyzers were inoperable, the Post Accident Sampling System (IP) could have been used to determine containment hydrogen concentration. In addition, it is estimated that, if no operator action is taken to initiate the hydrogen dilution system (BB), it would take approximately 21 days after a design basis accident for the hydrogen concentration to reach three percent and approximately 27 days to reach combustible levels.

On January 16, 1992, the NRC issued Amendment 168 to the Davis-Besse Operating License. This amendment revised Technical Specification Section 3/4.6.4.1 by adding an additional action statement, applicable when both hydrogen analyzers are inoperable, which allows 72 hours to return one of the two inoperable hydrogen analyzers to operable status before initiating a plant shutdown. Although Amendment 168 was issued, Toledo Edison had not yet implemented the change. Amendment 168 was implemented on February 11, 1992.

Corrective Action:

The Channel 1 hydrogen analyzer AC input breaker was replaced on February 20, 1992. Testing was conducted on the removed breaker, however, inappropriate breaker operation could not be reproduced.

Due to the configuration of the hydrogen analyzer circuitry, with both channels in a single cabinet, better labeling and access control will be established to reduce the potential of inadvertent operation. The hydrogen analyzer cabinet is now locked with access controlled by the Shift Supervisor. The ability to separately lock each channel will be provided by June 1, 1992. In addition, labeling will be enhanced to provide channel indication on each cabinet door and labels for the AC input breakers. The labeling enhancements will be completed by April 30, 1992.

An Operations Night Order was issued on February 14, 1992 which requires review of the computer alarms list at least twice per shift with logging of this review and any actions taken in response to computer alarms.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPL. WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN: ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-530) U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20545 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104) OFFICE OF MANAGEMENT AND BUDGET WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Davis-Besse Unit No. 1	0 5 0 0 0 3 4 6	9 2	0 0 1	0 0	0 5	OF 0 5

TEXT (if more space is required, use additional NRC Form 306A's) (17)

Corrective Action (Continued):

A review team has been formed to address possible improvements in the computer alarm system. The first meeting of this team was held on February 20, 1992. It is expected that this team will recommend improvements which will make identification of significant computer alarms easier for control room operators. The team is expected to provide an edited list of computer points to be monitored by the Control Room CRT by June 1, 1992. This will delete a number of unnecessary points and greatly improve on the "nuisance" factor experienced by the operators. Final results of the computer alarm system improvements are expected by December 1, 1992 for management review.

Failure Data:

LER 90-12 is the only other report in the previous two years which involved entry into Technical Specification 3.0.3. In that instance, Technical Specification 3.0.3 was entered as a result of two inoperable containment radiation monitors (IL). The root cause and corrective actions discussed in LER 90-12 are not applicable to this event.

Report No.: NP-33-92-001PCAO No.: 92-0034