

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) D. C. COOK UNIT ONE										DOCKET NUMBER (2) 0 5 0 0 0 3 1 5										PAGE (3) 1 OF 0 2																		
TITLE (4) OBSTRUCTION OF FIRE DAMPERS																																						
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 8			2 2			8 4			0 2			0 1			1 0			2 3			8 4									0 5 0 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)																73.71(b)																
POWER LEVEL (10) 1 0 0						20.402(b)						20.405(c)						50.73(a)(2)(iv)						73.71(c)														
						20.406(a)(1)(i)						50.38(c)(1)						50.73(a)(2)(iv)						73.71(c)														
						20.406(a)(1)(ii)						50.38(c)(2)						50.73(a)(2)(vii)						OTHER (Specify in Abstract below and in Text, NRC Form 366A)														
						20.406(a)(1)(iii)						50.73(a)(2)(ii)						50.73(a)(2)(viii)(A)																				
						20.406(a)(1)(iv)						50.73(a)(2)(ii)						50.73(a)(2)(viii)(B)																				
20.406(a)(1)(v)						50.73(a)(2)(iii)						50.73(a)(2)(ix)																										
LICENSEE CONTACT FOR THIS LER (12)																																						
NAME A. A. BLIND ENGINEERING DEPARTMENT SUPERINTENDENT														TELEPHONE NUMBER 6 1 6 4 6 5 - 5 9 0 1																								
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																						
CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPD		CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPD																				
SUPPLEMENTAL REPORT EXPECTED (14)														EXPECTED SUBMISSION DATE (15)				MONTH				DAY				YEAR												
YES (If yes, complete EXPECTED SUBMISSION DATE)														X NO																								

ABSTRACT (Limit to 140) spaces (i.e., approximately fifteen single-space typewritten lines) (16)

THIS IS A REVISION TO LER 84-020 PREVIOUSLY SUBMITTED ON SEPTEMBER 20, 1984. THE PURPOSE OF THIS REVISION IS TO INCLUDE THE SAFETY ASSESSMENT OF THE INVOLVED EVENTS AND CORRECTIVE ACTION TO BE IMPLEMENTED.

ON AUGUST 22, 1984, AT APPROXIMATELY 0001 HOURS WHILE UNIT 1 WAS AT 100 PERCENT PCWER, THE CONTROL ROOM CABLE VAULT SUPPLY FAN DAMPER WAS FOUND BLOCKED OPEN WITH A PIECE OF CONDUIT. IN INVESTIGATING THE ABOVE EVENT IT WAS FOUND THAT A MAY 21, 1984 SURVEILLANCE INSPECTION NOTED ANOTHER DAMPER AS BEING OBSTRUCTED BY CONDUIT. THIS DAMPER WAS FOR THE CD DIESEL GENERATOR FUEL OIL DAY TANK ENCLOSURE AND WAS NOT PREVIOUSLY REPORTED. IN BOTH INSTANCES THE OBSTRUCTION WAS REMOVED AND CORRECT OPERATION OF THE DAMPER VERIFIED UPON CONDITION DISCOVERY.

TO PREVENT RECURRENCE ADMINISTRATIVE POLICY CHANGES HAVE BEEN ESTABLISHED TO INSURE FIRE DAMPERS ARE OPERABLE AND UNOBSTRUCTED FOLLOWING EVOLUTIONS (e.g., TESTING, MAINTENANCE, OR ACTUATIONS) WHICH DISTURB A DAMPER'S OPERATIONAL READINESS.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1)  D. C. COOK UNIT ONE	DOCKET NUMBER (2)  0 5 0 0 0 3 1 5 8 4 - 0 2 0 - 0 1 0 2 OF 0 2	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

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

THIS IS A REVISION TO LER 84-020 SUBMITTED ON SEPTEMBER 20, 1984.

ON AUGUST 22, 1984, AT APPROXIMATELY 0001 HOURS WHILE IN MODE 1 AND OPERATING AT 100% POWER, THE CONTROL ROOM CABLE VAULT SUPPLY FAN DAMPER WAS FOUND INOPERABLE. THE INOPERABILITY OF THE DAMPER WAS DISCOVERED WHILE CONDUCTING THE 18 MONTH SURVEILLANCE TEST OF THE CARBON DIOXIDE FIRE PROTECTION SYSTEM (12 THP 4030 STP.225D). DURING THIS TEST, THIS GUILLOTINE TYPE DAMPER FAILED TO CLOSE AS DESIGNED. WHILE INSPECTING THE DAMPER AFTER THE TEST, IT WAS FOUND THAT A SHORT SECTION OF CONDUIT WAS POSITIONED SUCH THAT IT PROHIBITED THE DAMPER FROM FUNCTIONING. THE OBSTRUCTION WAS THEN REMOVED AND THE OPERABILITY OF THE DAMPER VERIFIED. FAILURE OF THIS DAMPER TO CLOSE WOULD HAVE A DIRECT EFFECT ON THE CONCENTRATION OF CARBON DIOXIDE IN THE CABLE VAULT AREA.

THE LAST OPERABILITY INSPECTION OF THE FIRE DAMPERS WAS CONDUCTED ON MAY 21, 1984, BY PROCEDURE 12 MHP 4030 STP.028. NO CONDUIT WAS NOTED OBSTRUCTING THE CONTROL ROOM CABLE VAULT DAMPER AT THIS TIME. HOWEVER, A SECTION OF CONDUIT WAS FOUND IN ANOTHER FIRE DAMPER, TAG NUMBER 1-HV-DGD-2, WHICH IS FOR THE UNIT 1 CD DIESEL GENERATOR FUEL OIL DAY TANK ENCLOSURE. THIS DAMPER IS ALSO OF THE GUILLOTINE TYPE AND WAS FOUND IN A PARTIALLY CLOSED POSITION WITH THE OBSTRUCTING CONDUIT POSITIONED PERPENDICULAR TO THE DAMPER AT THE BOTTOM SILL OF THE OPENING. THE SECTION OF CONDUIT WAS THEN REMOVED AND ACCEPTABLE DAMPER OPERATION VERIFIED. THIS CONDITION WAS NOT REPORTED AT THAT TIME.

AN INVESTIGATION OF THESE EVENTS REVEALED THAT PERSONNEL RESETTING THESE DAMPERS AFTER SURVEILLANCE TESTS OR ACTUAL ACTUATIONS OCCASIONALLY USE CONDUIT TO HOLD THE DAMPERS OPEN. THIS IS DONE TO FACILITATE THE REATTACHING OF THE LATCHING MECHANISM. NOT ALL SITUATIONS REQUIRING RESETTING OF THE FIRE DAMPERS ARE COVERED BY PROCEDURAL CONTROLS. THERE IS NO CONCLUSIVE EVIDENCE AS TO WHO WAS RESPONSIBLE FOR THIS BLOCKAGE IN EITHER INSTANCE.

TO PREVENT RECURRENCE ADMINISTRATIVE POLICY CHANGES HAVE BEEN ESTABLISHED TO INSURE FIRE DAMPERS ARE OPERABLE AND UNOBSTRUCTED FOLLOWING EVOLUTIONS (e.g., TESTING, MAINTENANCE, OR ACTUATIONS) WHICH DISTURB A DAMPER'S OPERATIONAL READINESS.

A SAFETY EVALUATION (COPY ATTACHED) WAS PERFORMED THAT ADDRESSES THE OBSTRUCTION OF THE HV-ACES-2 AND HV-DGD-2 DAMPERS. BOTH EVALUATIONS CONCLUDED THAT ADEQUATE FIRE PROTECTION EXISTED IN BOTH INSTANCES IN SPITE OF DAMPER CLOSURE PROBLEMS. ON THE BASIS OF THE EVALUATION, PUBLIC HEALTH AND SAFETY WERE NOT AFFECTED.

THIS CONCLUDES OUR INVESTIGATION INTO THESE EVENTS.

LER 84-020  
CONDITION REPORT 1-08-84-1774

- I. PROBLEM: Unit 1 Control Room Cable Vault supply air fire damper 1-HV-ACES-2 was found propped open by a piece of conduit. The following is a synopsis of the impact of the problem.
1. Fire Detection
  - Inside the vault - Cross-zoned ionization smoke detectors. Actuation of any detector causes alarm in the control room. An operator is assigned to determine the cause of alarm. (Procedures 1-OHP 4024.101.029).
  - Outside the vault - (area beyond damper) Location is the 609' El. of the Auxiliary Building. (Fire Zone 44) Ionization smoke detectors are installed throughout the area.
2. Fire Suppression
  - Inside the vault -
    1. CO<sub>2</sub> - The CO<sub>2</sub> system is a manual system requiring operator action to activate. The control room operators manually activate the system when it has been determined that a fire exists in the cable vault. This is accomplished by pressing a push button on the EF panel in the control room. With the Control Room Cable Vault Halon System out of service, the operators have been instructed to provide a second discharge to follow the initial release. A tag had been placed on the switch with operator instructions, however, it had been removed. A new tag is on the switch and the control room procedures have been revised to reflect a "double dump" procedure. When the system is actuated, calculations show the CO<sub>2</sub> would maintain a minimum concentration of 50% CO<sub>2</sub> for approximately 8 minutes with the fire damper blocked open. A second actuation of the system within that time period would add sufficient CO<sub>2</sub> to meet the original acceptance time for the cable vault.



LER 84-020 (Continued)  
CONDITION REPORT 1-08-84-1774

2.           Halon     - System is presently inoperable pending design modifications. With the damper being blocked open, and if the Halon system was in service, this opening would reduce the holding time of the agent in the room. Since the system is inoperable, calculations were not performed to determine how long the required extinguishing concentration could be held.

Outside the vault     - An automatic sprinkler system was provided outside the cable vault in the area adjacent to the subject damper. This system is located below obstructions (piping & conduit) to protect cable (mainly in conduit) from a floor fire. This system would provide protection from a floor fire for the damper opening. The fire severity in the area based on the Appendix R submittal is 10 minutes.

3.     Fire Barrier

The AEP response to Appendix A dated January 1977 indicates a barrier in excess of 3 hours around the cable vault. Based on the preceeding information, a fire on either side of the barrier should activate an ionization detection system to alert personnel. The CO<sub>2</sub> system would maintain 50% CO<sub>2</sub> concentration for the required period based on a double discharge. The sprinkler system outside the vault is connected to the plant fire protection water system with an unlimited supply from the lake.

CONCLUSION

Based on a review of the available reports and calculations and conversations with plant personnel; with the fire damper blocked open, the CO<sub>2</sub> level in the control room cable vault would remain at 50% or above for approximately 8 minutes after initial system actuation. Plant personnel had been instructed to discharge the system a second time which would add sufficient CO<sub>2</sub> to maintain a 50% concentration for the period of the original acceptance of the system. Based on the CO<sub>2</sub> system operations, rapid response of operators and the direct access from the control room, fires would be detected and contained in the vault with the damper blocked open. A floor fire outside the vault would be contained by the sprinkler system. Smoke from an external fire, if it entered the vault, would be detected by the smoke detection system, alarm in the control room, and operators would take appropriate action.

LER 84-020  
CONDITION REPORT 1-09-84-1982

- II. PROBLEM: Unit 1 CD Diesel Generator Fuel Oil Day Tank Enclosure return air fire damper 1-HV-DGD-2 was found partially blocked open with a piece of conduit. The following is a synopsis of the impact of the problem.

1. Fire Suppression and Detection System

The day tank enclosure is protected by the same CO<sub>2</sub> system that protects the CD Diesel Generator Room. The blocking open of the damper 1-HV-DGD-2 would have minimal effect on maintaining a concentration of CO<sub>2</sub> in either room. The CO<sub>2</sub> system is operated by 2 thermistors which are run in both the day tank and diesel generator room. The thermistors have different temperature settings, one (lower setting) giving alarm, the second (higher setting) automatically actuating the CO<sub>2</sub> system.

2. Fire Barriers

The AEP response to Appendix "A" in January 1977 indicates a three hour enclosure around the day tank. Blocking the damper open would violate this barrier. However, a fire occurring on either side of the damper would actuate the common CO<sub>2</sub> system which simultaneously floods both rooms. Also, Maintenance Department Procedure 12 MHP 4030 STP.028, Attachment No.2 dated 5/14/84 indicates the damper was found closed with pipe under damper. It was reported by the Plant Fire Protection Coordinator that a piece of conduit was laying across the track of the damper, allowing it to close to within approximately 1/2 inch of the bottom.

The CD day tank and diesel are fire separated from the AB day tank and diesel. This is a safe shutdown requirement that is not affected by the problem with damper 1-HV-DGD-2.

CONCLUSION

The day tank room damper being blocked had minimal effect on the CO<sub>2</sub> system as the damper was almost completely closed and both sides of the wall in which the damper is located are protected by the same CO<sub>2</sub> system.

The effect on the fire barrier would be a downgrading of the barrier. Again, however, the damper as found was almost completely closed; which would, in combination with the CO<sub>2</sub> system, prevent fire spread.



**INDIANA & MICHIGAN ELECTRIC COMPANY**

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October 24, 1984

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

Operating License DPR-58  
Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by 10CFR50.73  
entitled Licensee Event Reporting System, the following  
report/s are being submitted:

RO 84-020-1

Sincerely,

W.G. Smith, Jr.  
Plant Manager

/cbm

Attachment

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