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)
DONALD C. COOK UNIT 1	0 5 0 0 0 3 1 5	1 OF 0 4

TITLE (4)

INOPERABLE LOW PRESSURE CARBON DIOXIDE SYSTEMS

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 3	1 4	8 5	8 5	— 0 0 8	— 0 0	0 4	1 2	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)	1 0 0	20.402(b)	20.405(c)	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) X	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
M. E. SCHEFERS - PLANNING DEPARTMENT SUPERINTENDENT	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 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 MARCH 14, 1985 AT APPROXIMATELY 1615 HOURS, WITH UNIT 1 AT 100 PERCENT REACTOR THERMAL POWER, IT WAS DISCOVERED THAT THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS FOR THE U-1 AB AND CD EMERGENCY DIESEL GENERATOR ROOMS WERE REMOVED FROM SERVICE WITHOUT PROPER FIRE WATCH COVERAGE. THE FIRE WATCH COVERAGE EMPLOYED CONSISTED OF A ROVING INSPECTION AT A FREQUENCY OF ONCE EVERY THIRTY MINUTES. IN ADDITION, A SECURITY GUARD WAS POSTED IN THE AREA THROUGHOUT THE ENTIRE INCIDENT. A CONTINUOUS FIRE WATCH, HOWEVER, WAS NOT ESTABLISHED AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.9.3.b.

ON MARCH 13, 1985 AT 0900 HOURS THE ENTRANCE DOORS TO THE UNIT 1 AB AND CD EMERGENCY DIESEL GENERATOR ROOMS WERE REMOVED TO ALLOW INSTALLATION OF NEW DOORS. THE REMOVAL OF THESE DOORS RENDERED THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS INOPERABLE FOR THE AREAS INVOLVED. THE ERROR WAS RECOGNIZED AT APPROXIMATELY 1615 HOURS ON MARCH 14, 1985.

THE CAUSE OF THIS INCIDENT WAS PERSONNEL ERROR. IT WAS NOT RECOGNIZED THAT REMOVAL OF THE DOORS MADE THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS INOPERABLE. THOSE INDIVIDUALS INVOLVED ARE NOW AWARE OF THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.7.9.3 AND HAVE BEEN COUNSELED ON THE NECESSITY TO ACCURATELY DEFINE TECHNICAL SPECIFICATION LIMITATIONS WHEN INITIATING JOB ORDERS.

IE22

NRC Form 366
(9-83)

1/1

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

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

ON MARCH 14, 1985 AT APPROXIMATELY 1615 HOURS, WITH UNIT 1 AT 100 PERCENT REACTOR THERMAL POWER, IT WAS DISCOVERED THAT THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS (IEEE/KQ) FOR THE UNIT 1 AB AND CD EMERGENCY DIESEL GENERATOR ROOMS WERE REMOVED FROM SERVICE WITHOUT PROPER FIRE WATCH COVERAGE. THE FIRE WATCH COVERAGE EMPLOYED CONSISTED OF A ROVING INSPECTION AT A FREQUENCY OF ONCE EVERY THIRTY MINUTES. IN ADDITION, A SECURITY GUARD WAS POSTED IN THE AREA THROUGHOUT THE ENTIRE INCIDENT. A CONTINUOUS FIRE WATCH, HOWEVER, WAS NOT ESTABLISHED AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.9.3.b.

ON MARCH 13, 1985 AT 0900 HOURS THE ENTRANCE DOORS TO THE UNIT 1 AB AND CD EMERGENCY DIESEL GENERATOR ROOMS (IEEE/DR) WERE REMOVED TO ALLOW INSTALLATION OF NEW DOORS. THE DOORS WERE TO BE REPLACED AS PART OF A DESIGN CHANGE ADDRESSING APPENDIX R REQUIREMENTS. THE REMOVAL OF THESE DOORS RENDERED THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS INOPERABLE FOR THE AREAS INVOLVED. ALL APPLICABLE TECHNICAL SPECIFICATION FIRE WATCH REQUIREMENTS WERE NOT CONSIDERED INITIALLY BY PERSONNEL INVOLVED IN THE WORK. HOWEVER, A CONTINUOUS FIRE WATCH WAS IN PLACE THROUGHOUT THE INCIDENT (DUE TO THE NATURE OF THE WORK INVOLVED) WITH THE EXCEPTION OF FROM 1706 HOURS ON MARCH 13, 1985 TO 0920 HOURS ON MARCH 14, 1985 AND FROM 1555 HOURS TO 1635 HOURS ON MARCH 14, 1985.

AT APPROXIMATELY 1600 HOURS ON MARCH 14, 1985 WITH A ROVING FIRE WATCH ESTABLISHED, SECURITY PERSONNEL IN THE AREA ATTEMPTED TO OBTAIN PERMISSION FROM UNIT 1 CONTROL ROOM PERSONNEL TO RETURN THE LOW PRESSURE CARBON DIOXIDE SYSTEM TO SERVICE. THE OPERATIONS DEPARTMENT PERSONNEL INVOLVED RECOGNIZED THE ERROR AND DECLARED THE SUBJECT CARBON DIOXIDE SYSTEMS INOPERABLE AT APPROXIMATELY 1615 HOURS. AT 1635 HOURS ON MARCH 14, 1985 CONTINUOUS FIRE WATCHES WERE REESTABLISHED AND REMAINED IN PLACE UNTIL THE DOORS WERE REPLACED ON MARCH 22, 1985.

THE CAUSE OF THIS INCIDENT WAS PERSONNEL ERROR. NON-LICENSED PLANNING DEPARTMENT PERSONNEL INITIATED THE JOB ORDERS TO REPLACE THE DIESEL GENERATOR ROOM DOORS. PLANT MANAGER'S INSTRUCTION 2290 REQUIRES THAT THE DEPARTMENT ORIGINATING A JOB ORDER IDENTIFY ANY TECHNICAL SPECIFICATIONS APPLICABLE TO THE WORK INVOLVED. IT WAS NOT RECOGNIZED THAT REMOVAL OF THE DOORS MADE THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS INOPERABLE. THOSE INDIVIDUALS INVOLVED ARE NOW AWARE OF THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.7.9.3 AND HAVE BEEN COUNSELED ON THE NECESSITY TO ACCURATELY DEFINE TECHNICAL SPECIFICATION LIMITATIONS WHEN INITIATING JOB ORDERS.

SAFETY EVALUATION

FIRE SCENARIO

A FIRE THAT STARTED IN EITHER 1-AB OR 1-CD DIESEL GENERATOR ROOM COULD HAVE SPREAD OUTSIDE THE ORIGINAL AREA. A FIRE THAT STARTED IN THE TURBINE BUILDING HALLWAY COULD HAVE SPREAD INTO THE DIESEL GENERATOR ROOMS.

FIRE PROTECTION EVALUATION

THE 1-AB AND 1-CD DIESEL GENERATOR ROOMS (FIRE AREAS 15 AND 16 RESPECTIVELY) HAVE MIRROR IMAGE FIRE PROTECTION FEATURES. BOTH ROOMS ARE PROTECTED BY A CO_2 SYSTEM THAT IS ACTIVATED BY CROSS ZONED THERMISTOR DETECTION. AVAILABLE MANUAL SUPPRESSION EQUIPMENT INCLUDES EXTINGUISHERS, FOAM/WATER APPLICATION EQUIPMENT, CO_2 AND WATER HOSE REEL STATIONS. PASSIVE FIRE PROTECTION FEATURES INCLUDE REINFORCED CONCRETE WALLS, FLOORS AND CEILINGS RATED IN EXCESS OF 3 HOURS, FLOOR DRAINS, SUMP CONTAINMENT FOR THE LUBE OIL TANK, AND A 3 HOUR RATED ENCLOSURE FOR THE DIESEL FUEL OIL DAY TANK. NEARLY ALL OF THE COMBUSTIBLE LOADING IN THE DIESEL GENERATOR ROOMS IS COMPRISED OF FUEL AND LUBE OILS.

THE TURBINE BUILDING HALLWAY (FIRE ZONE 79), LOCATED BETWEEN THE DIESEL GENERATOR ROOMS, IS PROTECTED BY AUTOMATIC SPRINKLER PROTECTION AND HAS IONIZATION DETECTION THAT IS ARRANGED TO ALARM IN THE CONTROL ROOM. THE UNIT 1-AB AND CD DIESEL GENERATOR FIRE DOORS THAT WERE INVOLVED IN THIS INCIDENT ARE OFFSET APPROXIMATELY 13 1/2 FEET FROM EACH OTHER IN THE 8 FT. WIDE TURBINE BUILDING HALLWAY. THIS DOOR ARRANGEMENT IS A PASSIVE FEATURE WHICH PREVENTS DIRECT EXPOSURE BETWEEN THE DIESEL GENERATOR ROOMS. THE MANUAL AND PASSIVE FIRE PROTECTION FEATURES ARE THE SAME AS THOSE DESCRIBED FOR THE DIESEL GENERATOR ROOMS, EXCLUDING THE LUBE AND FUEL OIL CONTAINMENT FEATURES.

DURING THE INCIDENT, A SECURITY GUARD WAS POSTED IN THE AREA AT THE ENTRANCE DOORS AND A FIRE WATCH WAS PROVIDED ON A 1/2 HOUR TOUR SCHEDULE. THE CO_2 SYSTEMS PROTECTING THE DIESEL GENERATOR ROOMS WERE ISOLATED BUT COULD HAVE BEEN ACTIVATED MANUALLY. ALL DETECTION SYSTEMS AND THE HALLWAY AUTOMATIC SPRINKLERS WERE OPERABLE. NEITHER OF THE DIESEL GENERATORS WERE OPERATED AND NO MAINTENANCE OR INSTRUMENTATION WORK WAS BEING PERFORMED ON THE DIESEL GENERATORS DURING THE TIME THE FIRE DOORS WERE REMOVED. SINCE THE DOORS WERE REMOVED, WE INVESTIGATED TO DETERMINE IF A FIRE IN THE HALLWAY COULD HAVE SPREAD FROM ONE AREA TO ANOTHER. IT WOULD BE HIGHLY UNLIKELY FOR SUCH A FIRE TO SPREAD BEYOND THE HALLWAY FOR SEVERAL REASONS. THE HALLWAY HAS A LIMITED COMBUSTIBLE LOADING CONSISTING OF ELECTRICAL CABLES IN CONDUIT AND TRAYS LOCATED NEAR THE CEILING. AUTOMATIC SPRINKLERS ON AN EXTRA HAZARD SPACING PROTECT THE HALLWAY. IONIZATION DETECTION WOULD HAVE PROVIDED AN EARLY WARNING OF FIRE. THE SECURITY GUARD, WHO WAS LOCATED IN THIS AREA, COULD HAVE IMMEDIATELY INITIATED MANUAL FIRE FIGHTING ACTIVITIES.

WE ALSO INVESTIGATED TO DETERMINE IF A FIRE ORIGINATING IN ONE OF THE DIESEL GENERATOR ROOMS COULD SPREAD INTO THE HALLWAY. WITH THE EXCEPTION OF THE OPEN DOORWAY, THE BOUNDARY WALLS OF THE DIESEL GENERATOR ROOMS, THE DAY TANK ROOM ENCLOSURE, THE LUBE OIL SUMP AND THE FLOOR DRAINAGE SYSTEM ARE ALL POSITIVE FEATURES THAT WOULD HAVE HELPED CONTAIN ANY ESCAPING OIL AND PREVENTED ITS PROPAGATION INTO THE HALLWAY. IT IS UNLIKELY THAT A FIRE WOULD HAVE PROPAGATED INTO THE HALLWAY, BUT IF IT DID, IT WOULD HAVE BEEN CONTROLLED IN THE HALLWAY. CONTROL OF THE FIRE COULD HAVE BEEN ACHIEVED BY THE ABOVE MENTIONED SPRINKLERS, DETECTION, THE MANUAL FOAM/WATER APPLICATION EQUIPMENT, AND THE SECURITY GUARD. THE FIRE FREQUENCY POTENTIAL DURING THIS INCIDENT WAS LOW. THIS LOW FREQUENCY IS ATTRIBUTABLE TO THE FACT THAT THE DIESEL GENERATORS WERE IDLE DURING THE INCIDENT AND NO WORK WAS PERFORMED ON THEM. ALSO, THE IDLE DIESEL GENERATORS AND LIMITED FIRE WATCH COVERAGE HELPED TO LESSEN THE POTENTIAL FIRE SEVERITY.

BASED ON THE ABOVE EVALUATION IT IS CONCLUDED THAT THERE WAS NO SUBSTANTIAL DEGRADATION OF FIRE PROTECTION CAPIBILITY DUE TO THIS EVENT, NOR DID IT CONSTITUTE A HAZARD TO THE HEALTH AND SAFETY OF THE PUBLIC.

American Electric Power System
INDIANA & MICHIGAN ELECTRIC COMPANY
DONALD C. COOK NUCLEAR PLANT
P.O. Box 458, Bridgman, Michigan 49106
(616) 465-5901

April 12, 1985

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 85-008-0

Sincerely,

A. Alan Blind

For W.G. Smith, Jr.
Plant Manager

/cbm

Attachment

cc: John E. Dolan
J.G. Keppler, RO:III
M.P. Alexich
R.F. Kroeger
H.B. Brugger
R.W. Jurgensen
NRC Resident Inspector
R.C. Callen, MPSC
G. Charnoff, Esq.
J.M. Hennigan
INPO
PNSRC
J.F. Stietzel
Dottie Sherman, ANI Library

IE22
1/1