REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9503130162DOC.DATE: 95/03/06NOTARIZED: NODOCKET #FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M05000315AUTH.NAMEAUTHOR AFFILIATIONHODGE,W.M.Indiana Michigan Power Co. (formerly Indiana & Michigan EleBLIND,A.A.Indiana Michigan Power Co. (formerly Indiana & Michigan EleRECIP.NAMERECIPIENT AFFILIATION

SUBJECT: LER 94-006-01, cancelling LER 94-006-00.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR / ENCL / SIZE: 10 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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ATEP INDIANA MICHIGAN POWER

March 6, 1995

United States Nuclear Regulatory Commission Document Control Desk Rockville, Maryland 20852

> Operating Licenses DPR-58 Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by 10 CFR 50.73 entitled <u>Licensee Event Report System</u>, the following report is being submitted:

94-006-01 This revision shall serve to cancel LER 94-006-00

Sincerely,

A. Clan Bf

A. A. Blind Plant Manager

/sb

Attachment

c: J. B. Martin, Region III E. E. Fitzpatrick P. A. Barrett R. F. Kroeger M. A. Bailey - Ft. Wayne NRC Resident Inspector J. B. Hickman - NRC J. R. Padgett G. Charnoff, Esq. D. Hahn INPO S. J. Brewer

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NRC F	ORM 366			S. N	UCLEAR F	REG	ULATORY	COMM	ISSION			PPRO		Y OMB NO. RES 5/31/9		-0104	
	LICENSEE EVENT REPORT (LER)									IRWARD MATION UCLEAR AND TO							
FACILIT	(NAME (1)		· · · · ·	<u></u>		_						IMBER (2				PAG	E (3)
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TITLE (4)		lati		LER 94-	006-00		•										
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			COMPLI	ETE ONE LINE F	OR EACH	CON	PONENT	FAILUR	E DESC	CRIBE	D IN	THIS R	EPOR	T (13)			
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						с ор		Autor i	1103) (1	0)							
	On April 4, 1994, with Unit 1 in Mode 6, a seismic gap filled with untreated styrofoam was discovered in the Unit 1 East Main Steam Valve enclosure. The gap was covered with a fireproof silicone sheeting, which had degraded, exposing the styrofoam underneath. Two adjacent gap seals were examined, and were also found to contain untreated styrofoam. All three seals were declared inoperable, and compensatory actions per Technical Specification 3.7.10 were initiated. An interim LER was submitted on June 10, 1994, under 10CFR50.73(a)(2)(i)(B). LER 94-006-00 stated that an inspection program had been undertaken to determine the total number of gaps filled with the unqualified material. When the entire population of gap																
-	total number of gaps filled with the unqualified material. When the entire population of gap seals was inspected, a revision to LER 94-006-00 would be submitted. The inspections were completed in July 1994. The results of the inspections were evaluated and it was determined that this event was not reportable. This submittal outlines the evaluation performed to reach and support the conclusion of "Not Reportable", and serves to cancel LER 94-006-00.																

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NRC FORM 366A (6-89)				"		APPF	ROVED O	MB NO, 31	50-010	ж			
	NSEE EVENT REPORT EXT CONTINUATION	(LER)			INFOR COMM AND I REGU THE	IENTS R REPORT LATOR PAPERY	N COLL LEGARD IS MAN Y COMM	LECTION ING BUR AGEMENT AISSION, 1 EDUCTIO	ESPONSE REQUEST DEN ESTI F BRANCI WASHING WASHING ET, WASH	T: 50.0 MATE H (P-53 TON, I CT (3)	D HRS TO TH 101, U. DC 20 150-01	S, FOR HE REC ,S. NUC 1555, A 1041, O	WARD CORDS CLEAR ND TO FFICE
FACILITY NAME (1)		DOCKET NU	MBER (2)		1	LER	NUMBE	R (6)		T	14	AGE (3)
					YEAR		EQUENT		REVISIO				
Cook Nuclear	Plant - Unit 1	0 5 0	1010	1 ³ 11 ⁵	9 4		0 0		0,1	0	2	OF	۱
TEXT III more space is required, use additional	NRC Form 366A's) (17)		.		_								
<u>Event</u>													
discovered in the U fireproof silicone sh adjacent gap seals	ith Unit 1 in Mode 6 Init 1 East Main Stea neeting, which had d were examined, and declared inoperabl were initiated.	am Valve legraded d were a	e encl , expo lso fo	osure. osing th und to (The g le styre contai	ap v ofoa n un	vas (Im u Itrea	cove nder ted s	red w neath tyrofo	vith 1. T	a 'wo)	
is normally covered	be determined if othe d entirely by silicon s number of gaps fille	sheetina.	An i	nspectio	on pro	arar	nce t n wa	the st as ins	yrofc stitute	am ad to	ı fill O		

All 490 gap seals were inspected and 106 were found to be deficient. Filler material was used during construction when the barriers were being poured to create the seismic expansion gaps. In several cases, styrofoam filler was left in place and not removed. This created a problem since many of these gaps existed in fire barriers and contained combustible material. To resolve this issue, the filler material was to be either removed or protected. A design change was initiated which included excavating the styrofoam to a depth of several inches, then protecting the remaining filler material with fireproof silicon sheeting.

The fireproofing of Unit 1 styrofoam seismic gaps was completed entirely by a contract group under an existing maintenance contract. The gaps seals in Unit 2 were later included in the work to be performed by the same contractor. In September 1979, the work order completion notice was issued and indicated that the seismic gaps in both Unit 1 and Unit 2 containments and auxiliary building have been filled with fireproof styrofoam. It could not be conclusively determined why this job was not completed in the manner specified in the contract.

Evaluation

A total of 106 gap seals were found to be deficient. Ninety-four gap seals were found to contain unprotected or unapproved materials and were scheduled for repair. Four additional gap seals were identified as containing silicone foam in non-conforming configurations. Upon further review, these four configurations were found to be acceptable. One gap seal was found to be filled with concrete and was determined to be acceptable from a fire protection standpoint. Five gap seals were found to be painted. The paint was removed from the silicone sheeting materials. Two gap seals had the silicone sheeting missing and were repaired by installing the missing sheeting or removing the combustible filler material from the seals, as applicable.

NRC FORM 346A (5-89)		U.S. NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 3150-0104
l	ICENSEE EVENT REPOR TEXT CONTINUATIO	-	ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 500 HRS, FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT 1315061041, OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.
FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER (6) PAGE (3)
Cook Nuclear	Plant - Unit 1	0 5 0 0 0 3 1 5	VEAR **** SEQUENTIAL **** REVISION 9 4 - 0 06 - 0 1 0 3 OF 1 5
TEXT III more space as required, use ac	Iditional NRC Form 365A's) (17)		
The 94 gap into several	seals with combustibl broad groups, as follo	e or unapproved filler m ows:	aterial can be further categorized
•		terface with grade or ex m a fire protection stand	terior yard and were determined Ipoint.
•	Eighteen gap seals within the same fire standpoint.	interface with the same area and are therefore a	fire zone or adjacent fire zone acceptable from a fire protection
•	the containment bui standpoint due to th seals. The exemption	lding and are considered e existence of an exemp	re area boundary interface with d acceptable from a fire protection btion granted by the NRC for these six additional gap seals which are ewed.
•			fire zone boundaries which are stems located on each side of the .
•	Thirty-seven gap se	als require individual bo	undary analysis.
•	Six gap seals were t repaired.	iound to contain unappro	oved caulking materials and were
suppression gaseous fire within 18" of	systems must still rei suppression agent d	uring system discharge.	protected by gaseous ned in order to contain the In addition, gap seals located ned in order to perform their flood
Evaluation	of Gap Groups		
The followin previously d		he 106 gap seals group	ed by type of deficiency, as
Non-Con	forming Gap Seal Co	nfigurations	
, (AFW) complex between Fi		ocated in the auxiliary feed water 2, 17F/17G and 17G/17F. The one foam assemblies.
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NRC FORM 366A U.S. 1 (6-89)	NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 3150-0104					
LICENSEE EVENT REPORT (TEXT CONTINUATION	LER)	ESTIMATED BURDEN PER RESPONSE T INFORMATION COLLECTION REQUEST COMMENTS REGARDING BURDEN ESTIM AND REPORTS MANAGEMENT BRANCH REGULATORY COMMISSION, WASHINGT THE PAPERWORK REDUCTION PROJEC OF MANAGEMENT AND BUDGET, WASHI	(P-530), U.S. NUCLEAR ON, DC 20555, AND TO T (3150-0104), OFFICE				
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)				
Cook Nuclear Plant - Unit 1	0 5 0 0 0 ³ ¹ ⁵	YEAR ※※ SEGUENTIAL ※※ ALVISON 9140101601	04 OF 115				
TEXT III more space is required, use additional NRC Form 366A's) (17)			<u></u> 1 <u>1</u> <u>1</u>				
It is acceptable from both a fire pr these gaps are sealed in this fash DCC-FP101-QCN. The installation inches with or without the silicone design of the AFW complex seals 17F and 17G are in accordance w Fire Protection Program Manual. be in accordance with this design pump rooms contains conduit per drawings. The silicone sheeting i penetration using caulking approv QCF.	ion per the design re- on of the silicone foan sheeting to provide a between Fire Zones with Technical Bounda Other gap seals with . The gap seal betwe netrations sealed in ac s sealed to the silicon	quirement in Specification is to a minimum of two a fire resistant seal. The 17D and 17E and betwo ary Evaluation 11.26 of the in the AFW complex makes the AFW corridor and coordance with existing the foam at the conduit	on elve een the ay also ad the				
Concrete or Grout Installed in Gap							
Floor gap seal 61G-11 contains c inches. This depth of concrete or excess of the combustible loading 400 BTU/sq.ft. for a fire severity c loading in the fire zone below is a one minute. Three and one half i a fire resistance of one hour.	grout is acceptable to . The combustible lo f approximately 20 m	o provide a fire resistan bading in Fire Zone 11 i inutes. The combustibl	ce in s 26, e				
A technical evaluation of the ever combustible or other unapproved jeopardize the fire safety of the pl	materials in the ident	that the presence of the fire barriers did not					
Gap Seals That Interface with Grade	or Exterior						
Gap seals that interface with grad Gaps that interface with grade wil combustible materials within the g fire. Gaps that interface with the they do not represent a threat to c easily be contained by the fire brid	I not contribute to the Jap would be conside exterior yard are not content other areas. Any fire	spread of fire and any red to be consumed by considered to be require spreading to the exterio	the ed as r can				
Gap Seals Within the Same Fire Zone of	r Fire Area						
Gap seals that interface with othe required to be provided with rated the effects of a fire within all portion a barrier from one zone to anothe	seals. Previous eval	luations have accounted le or fire that passes thr	d for				
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NRC FORM 386A U. (689)	S, NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 3150-0104	
	LICENSEE EVENT REPORT (LER) TEXT CONTINUATION		
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) PAGE (3)	
		YEAR WW SEQUENTIAL WRENSION	
Cook Nuclear Plant - Unit 1	0 5 0 0 0 3 1 5	9 4 - 00 6 - 0 1 0 5 of 1 5	
TEXT (If more space is required, use additional NRC Form 300A's) (17) Containment Boundary Gap Se	als per FPPM Evaluati	ion 7.14	
An exemption has been gra seismic gaps that exist at th building and walls, ceilings a containment. This exemption (FPPM), Section 7.14.	nted by the NRC from e fire area boundary in and floor of structure in on is contained in the F	fire rating the gap seals for the iterface between the containment nmediately adjacent to Fire Protection Program manual	
the impact of the gaps on ot	her zones that did not that safe shutdown and	by suppression systems and the dition, this analysis has evaluated contain suppression systems. d fire safety of the plant were not	
Fire Zones Protected by a Supr	pression System		
a suppression system on at contain a fire suppression sy suppression systems and a systems. Two of the fire zo	least one side of the b ystem. Seventeen of t utomatic cross zones iones contain automatic ation and infrared dete	s/fire areas that were protected by arrier. Twenty-six fire zones hese zones contain manual CO ₂ onization and infrared detection CO ₂ suppression systems and ection systems. Seven fire zones	
be confined to that zone. Fo detected the fire while it was circuits or operation of a CO control room. Upon annunc would initiate the fire brigade suppression system would a fire brigade response. Upor assessed the situation and,	or the CO ₂ systems, the s still small in size. Def 2suppression system v iation of the alarms in the response. Operation also alarm in the appropriation arrival at the fire scert where necessary, may ment of the fire. Manu-	fire suppression systems would be ionization detectors would have tection by either the detector would be alarmed in the respective the control room, the operators of the automatic water priate control room and initiate the ne, the fire brigade would have anually trip the CO_2 suppression hal fire fighting equipment is also	
	pth fire protection prov	e spread beyond the room of ided in these areas adequately .	
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NRC FORM 386A (689)	APPROVED OMB NO. 316	0-0104	
LICENSEE EVENT RE TEXT CONTINUA	ESTIMATED BURDEN PER RESPONSE T INFORMATION COLLECTION REQUEST: COMMENTS REGARDING BURDEN ESTIM AND REPORTS MANAGEMENT BRANCH REGULATORY COMMISSION, WASHINGT: THE PAPERWORK REDUCTION PROJEC OF MANAGEMENT AND BUDGET, WASHI	500 HRS. FORWARD ATE TO THE RECORDS (P-630), U.S. NUCLEAR ON, DC 20555, AND TO T (3150-0104), OFFICE	
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
		YEAR SEQUENTIAL SALASSION NUMBER	
Cook Nuclear Plant - Unit		5 9 4 0 0 6 0 1	0 6 _{OF} 1 5
TEXT (If more space is required, use additional HRC Form 366A's) (17)			
Individual Boundary Analysis			

The following evaluations are based on specific Fire Zones and the deficient gaps seals that they contained.

Fire Zones 9 to 10 and 24 to 25 Gap Seals

Several floor gap seals contained unprotected styrofoam in Units 1 and 2 which extend beneath fire barrier walls. The styrofoam was covered with approximately 1 inch of caulking. In unite 1 the gap seals pass between FZs 9 and 10. In Unit 2, the gap seals pass between FZs 24 and 25.

These gaps are to be sealed to prevent the passage of fire from one side of the barrier to the other via the styrofoam located in the floor gap. Appendix A to the BTP APCSB 9.5-1, Section F.3, requires cable spreading areas to be separated from adjacent areas by rated construction. Each fire zone is protected by cross zoned ionization and infrared detectors and a manually actuated CO_2 suppression system. As stated above for fire zones containing a suppression system, the fire would have been confined to the zone of origin and extinguished.

In Unit 1, FZs 9 and 10 are part of the Fire Area H. In Unit 2, FZs 24 and 25 are part of Fire Area BB. Therefore, the effect of a fire passing from one zone to the other has already been analyzed and determined not to affect safe shutdown of the plant. The containment of the fire in the room of original and the defense in depth protection provided in these areas adequately protects the fire safety of the plant

Fire Zone 23 to 117 Gap Seals

Two gap seals exist in the barrier between Fire Zones 23 and 117. Fire Zone 23 is in the Unit 2 Quadrant 3N Cable Tunnel at elevation 596' 3.5". This zone has a low combustible loading of approximately 29,000 BTU/sq.ft. for a fire severity of less than 22 minutes. this zone is protected by cross zones ionization and infrared detectors and a manually actuated CO_2 suppression system. As sated above for fire zones containing a suppression system, the fire would have been confined to the zone of origin and extinguished.

Fire Zone 117 is the Unit 2 Underground Tank Area Pipe Tunnel at elevation 586'. This zone has a very low combustible loading of approximately 600 BTU/sq.ft. for a fire severity of less than 1 minute. Manual fire fighting equipment is available in adjacent fire area.

NRC FORM 366A (6-89)	U.S.	NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO, 3150-0104
	LICENSEE EVENT REPORT TEXT CONTINUATION	(LER)	ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 500 HAS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), 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 (6) PAGE (3)
	uclear Plant - Unit 1	0 5 0 0 0 3 1 5	VEAR SEQUENTIAL ANALYSION 9 4-0 0 6-010 70F15
TEXT III more space is i	required, use eddroonel NRC Form 366A's) (17)		
	Where FZs 23 and 117 interface combustible within FZ 117, the existing gap seal. Additionally contain personnel except for travel. As a result, transient of fire in this area would not spreplant is adequately protected.	ere is insufficient haz y, the underground pi maintenance or inspe combustibles would no ead beyond the room	ard present to threaten the
E	ire Zones 33A to 11 and 41 Gar	o Seals	
,	Unit 1 Main Steam Line area combustible loading within thi BTU/sq.ft. for a fire severity of ionization and infrared detector	at lower containment s zone is considered f 7 minutes. This zon ors that annunciates in	3A and 41. Fire Zone 33A is the access at elevation 612'. The to be low at approximately 9,300 e is provided with automatic n the control room upon detection dily available for fire brigade use.
	has low combustible loading of 20 minutes. This zone is prot and a manually actuated CO ₂	of approximately 26, 4 ected by cross zoned system suppression s ession system, the fire	el at elevation 596'3.5". this zone 00 BTU/sq.ft. for a fire severity of ionization and infrared detectors system. As stated previously for would have been confined to the
	for a fire severity of 22 minute and infrared detectors and a r	combustible loading o s. This zone is protect nanually actuated CC g a suppression syste	m and MCC Room at elevation of approximately 28,200 BTU/sq.ft. cted by cross zoned ionization D_2 suppression system. As stated em, the fire would be confined to
	type fire involving ordinary con this type can go through a pro smoke and heat is produced b produced during the incipient the area while the fire is still s	mbustibles such as tra longed pre-burning (in before flaming combus stage would set off th mall. Activation of the m. The detection sys ctivities. The fire brigg	e automatic detection system in e detection systems would be stem would alert the control room ade would assess the fire
			, , , , , , , , , , , , , , , , , , ,

NRC FORM 366A U.S	NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 3150-0104				
LICENSEE EVENT REPORT TEXT CONTINUATION	(LER)	ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH INFORMATION COLLECTION REQUEST: 500 HRS. FOR COMMENTS REGARDING BURDEN ESTIMATE TO THE REC AND REPORTS MANAGEMENT BRANCH (P530), U.S. NUC REGULATORY COMMISSION, WASHINGTON, DC 2055, AT THE PAPERWORK REDUCTION PROJECT (31500104), OI OF MANAGEMENT AND BUDGET, WASHINGTON, DC 2053	ORDS LEAR ND TO FFICE			
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) PAGE (3)				
		YEAR SEQUENTIAL SEQUENTIAL SEVISION NUMBER				
Cook Nuclear Plant - Unit 1	0 5 0 0 0 3 1 5	9 4 - 0 0 6 - 01 08 05 1	L I 5			
TEXT (If more space is required, use addreaded NRC Form 366A's) (17)						
suppression system and use the extinguish the fire, as needed. The fire would be contained in th provided in these areas would a	ne room of origin and t	he defense in depth protection				
Fire Zone 42C to 43 Gap Seal						
One gap seal exists in the barrier between FZs 42C and 43. Fire Zone 42C is the Unit 1 Electrical Power Systems MCC Room at elevation 609' 6". This zone has a very low combustible loading of approximately 2,400 BTU/sq.ft. for a fire severity of 2 minutes. This Zone is protected by cross zones ionization and infrared detectors and a manually actuated CO_2 suppression system. As stated previous for fire zones containing a suppression system, the fire would be confined to the zone of origin and extinguished.						
Fire Zone 43 is the Access Cont within this zone is approximately This zone is provided with auton Unit 1 control room upon detecti readily available for fire brigade	76,600 BTU/sq. ft. for natic ionization detecto on of a fire. Manual fi	r a fire severity of 58 minutes. Drs that annunciate within the				
If a fire were to occur in either F2 fire involving ordinary combustib type can go through a prolonged and heat is produced before flan during the incipient stage would while the fire is still small. Activa in the control room. The detection manual fire fighting activities. The determine the need for manual a system (where provided) and us extinguish the fire A fire would n the defense in depth fire protection fire safety of the plant.	les such as trash, cab l pre-burning (incipient ning combustion begin set off the automatic c ation of the detection s on system would alert ne fire brigade would a actuation of the total flo e the available manua not, therefore, spread b	The jacketing, etc. A fire of this t) stage in which visible smoke as. The hot gases produced detection system in the area systems would be annunciated the control room to initiate assess the fire situation, boding CO_2 suppression al fire fighting equipment to beyond the room of origin and				
Fire Zone 45 to 34A Gap Seal						
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NRC FORM 366A (6-89)-	U.S. I	NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 3150-0104
	LICENSEE EVENT REPORT (TEXT CONTINUATION	(LER)	ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 500 MRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), 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 (6) PAGE (3)
			YEAR SEQUENTIAL WIREY SHON
Cook Nu	clear Plant - Unit 1	0 5 0 0 0 3 1 5	9 4 - 0 06 - 0 1 0 9 0F 1 5
TEXT (If more space as re	quired, use additional NRC Form 366A's) (17)		
	combustible loading within thi 200 BTU/sq.ft. for a fire sever ionization and infrared detect	s zone is considered ity of 4 minutes. This ors which annunciate	access at elevation 612'. The to be very low at approximately 5, zone is provided with automatic in the control room upon s readily available for fire brigade
	609" 6". This zone has a low BTU/sg.ft. fore a fire severity	combustible loading of 17 minutes. This z	m and MCC Room at elevation of approximately 21, 800 one is protected by cross zoned tuated CO2 suppression system to the zone of origin and
1	fire involving ordinary combus type can go through a prolong and heat is produced before find during the incipient stage wou while the fire is still small. Act in the control room. The deter manual fire fighting activities. determine the need for manual system (where provided) and extinguish the fire A fire would	stibles such as trash, or ged pre-burning (incip laming combustion be ald set off the automat tivation of the detection ction system would al The fire brigade wou al actuation of the tota use the available man d not, therefore, spres	uld most likely be a class "A" type cable jacketing, etc. A fire of this ient) stage in which visible smoke egins. The hot gases produced ic detection system in the area on systems would be annunciated ert the control room to initiate ld assess the fire situation, al flooding CO_2 suppression nual fire fighting equipment to ad beyond the room of origin and se areas adequately protects the
Eir	e Zone 114 to 33A Gap Seal		4
	Unit 1 Main Steam Line area a	at lower containment as zone is considered to 7 minutes. This zone	and 33A. Fire Zone 33A is the access at elevation 612'. The to be low at approximately 9,3000 e is provided with automatic in the control room upon
	Fire Zone 114 is the Unit 1 ES very low combustible loading of less than 1 minute. Manual fir	of approximately 200	vation 587'. This zone has a BTU/sq.ft. for a fire severity of is available in adjacent fire areas.
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NRC FORM 386A U.S. P	NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 315	0-0104
LICENSEE EVENT REPORT (TEXT CONTINUATION	ESTIMATED BURDEN PER RESPONSE T INFORMATION COLLECTION REQUEST: COMMENTS REGARDING BURDEN ESTIM AND REPORTS MANAGEMENT BRANCH REGULATORY COMMISSION, WASHINGT THE PAPERWORK REDUCTION PROJEC OF MANAGEMENT AND BUDGET, WASHIN	50.0 HRS. FORWARD ATE TO THE RECORDS (P-530), U.S. NUCLEAR ON, OC 20555, AND TO T (3150-0104), OFFICE	
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
		YEAR SEQUENTIAL W REVISION NUMBER	
Cook Nuclear Plant - Unit 1	0 5 0 0 0 3 1 5	9 4 - 0 0 6 - 0 1	1 0 OF 1 5
TEXT (If more space is required, use additional NRC Form 366A's) (17)	**		
If a fire were to occur in FZ 33A ordinary combustibles such as tra through a prolonged pre-burning produced before flaming combus incipient stage would set off the a is still small. Activation of the del room. The detection system wou fighting activities. The fire brigad need for manual actuation of the provided) and use the available n Fire Zones 33A and 114 interface within FZ 114, there is insufficien Additionally, the underground pip except for maintenance or inspect transient combustibles would not A fire, therefore, would not spreat these areas. The defense in dep safety of the plant.	ash, cable jacketing, e (incipient) stage in wi tion begins. The hot automatic detection sy tection systems would ald alert the control ro le would assess the fi total flooding CO_2 sup nanual fire fighting ec along a wall gap. W t hazard present to the thazard present to the total not is not a norm be expected within the d beyond the room of th provided in these a	etc. A fire of this type ca hich visible smoke and l gases produced during ystem in the area while d be annunciated in the om to initiate manual fir re situation, determine to pression system (wher upment to extinguish the vith a lack of combustible reaten the existing gap rmally contain personne nal path of travel. As a his zone.	an go heat is the the fire control e the re he fire les seal. l result, art in
<u>File 2016 114 (0 11: 41: 425. alig 42</u>	C Gap Seals		
Two gap seals exist in the barrier the barrier between FZs 114 and FZs 114 and 42B. Two gap seals	41. Four gap seals e	exist in the barrier betwe	en
Fire Zone 114 is the Unit 1 ESW very low combustible loading of a less than 1 minute. Manual fire fi	pproximately 200 BT	U/sq.ft. for a fire severit	y of
Fire Zone 11 is the Unit 1 Quadra has low combustible loading of a 20 minutes. This zone is protected and a manually actuated CO_2 sys fire zones containing a suppression zone of origin and extinguished.	pproximately 26, 400 ed by cross zoned ion tem suppression syst	BTU/sq.ft. for a fire sev lization and infrared det tem. As stated previous	erity of ectors sly for
Fire Zone 41 is the Unit 1 Engine 609' 6". This zone has a low com for a fire severity of 22 minutes.	ubustible loading of a	oproximately 28,200 BT	Ü/sq.ft.

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NRC FORM 366A (5-85)	U.S. (APPROVED OMB NO. 3150 010	4	
	LICENSEE EVENT REPORT (TEXT CONTINUATION	LER)	ESTIMATED BURDEN PER RESPONSE TO CO INFORMATION COLLECTION REQUEST: 500 COMMENTS REGARDING BURDEN ESTIMATE T AND REPORTS MANAGEMENT BRANCH (P53) REGULATORY COMMISSION, WASHINGTON, C THE PAPERWORK REDUCTION PROJECT (3) OF MANAGEMENT AND BUDGET, WASHINGTO	TO THE RECORDS 0), U.S. NUCLEAR 0C 20555, AND TO 50-0104), OFFICE
FACILITY NAME (1)	· · · · · · · · · · · · · · · · · · ·	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
			YEAR SEQUENTIAL SERVISION NUMBER	
Cook Nu	clear Plant - Unit 1	0 5 0 0 0 3 1 5	9 4 0 0 6 0 1 1	1 OF 1 5
TEXT (If more space is n	equired, use additional NRC Form 366A's) (17)			
	and infrared detectors and a n	nanually actuated CC	P_2 suppression system.	
	Fire Zone 42B is the Unit 1 Ele 609'6". This zone has a very b BTU/sq.ft. for a fire severity of	low combustible loadi	ns MCC Room at elevation ing of approximately 2,400	l
1	Fire Zone 42C is the Unit 1 Ele 6". This zone has a very low of for a fire severity of 2 minutes. infrared detectors and a manu previous for fire zones contain to the zone of origin and exting	combustible loading o This Zone is protect ally actuated CO ₂ sup ing a suppression sys	of approximately 2,400 BTL ted by cross zones ionizati opression system. As state	J/sq.ft. on and ed
	If a fire were to occur in either "A" type fire involving ordinary of this type can go through a p smoke and heat is produced b produced during the incipient s the area while the fire is still so annunciated in the control root to initiate manual fire fighting a situation, determine the need to suppression system (where pr equipment to extinguish the fir	combustibles such a prolonged pre-burning before flaming combu- stage would set off th mall. Activation of the m. The detection sys activities. The fire brig for manual actuation povided) and use the a	s trash, cable jacketing, etc (incipient) stage in which stion begins. The hot gase e automatic detection syste detection systems would stem would alert the contro gade would assess the fire of the total flooding CO,	c. A fire visible es em in be l room
	Fire Zone 114 is located bener floor/ceiling gap. Fire Zone 11 wall gap. With a lack of combi- present to threaten the existing not normally contain personne normal path of travel. As a res- within this room.	4 is located adjacent ustibles within FZ 114 g gap seal. Additiona I except for maintena	to FZ 11 and interfaces al t, there is insufficient haza ally, the ESW Pipe Tunnel ance or inspections and is r	ong a rd does not a
	It is not expected that fire in or origin. The defense in depth fi protected the fire safety of the	ire protection provide	uld spread beyond the roor d in these areas adequate	n or ly
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RC FORM 386A U.S. NUCLEAR REGULATORY COMMISSION 897		APPROVED OMB NO. 3150-0104			
LICENSEE EVENT REPORT (LER) TEXT CONTINUATION		ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530). U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 2055, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104). OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.			
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) PAGE (3)			
		YEAR WW SEQUENTIAL WW REVISION			
Cook Nuclear Plant - Unit 1	0 5 0 0 0 3 1 5	9 4 - 0 0 6 0 1 1 2 0F 1 5			
TEXT III more space is required, use additional NRC Form 366A's) (17)		· · · · · · · · · · · ·			
Fire Zone 14 to 42D Gap Seal					
One gap seal exists in the barrier between FZs 114 and 42D. Fire Zone 114 is the Unit 1 ESW Pipe Tunnel at elevation 587'. This zone has a very low combustible loading of approximately 200 BTU/sq.ft. for a fire severity of less than 1 minute. Manual fire fighting equipment is available in adjacent fire areas.					
Fire Zone 42D is the Unit 1 Electrical Power Systems AB Battery Room at elevation 609'6". This zone has a low combustible loading of approximately 44,600 BTU/sq.ft. for a fire severity of 34 minutes. The combustibles within this zone are predominately the plastic battery cells. this zone is protected by ionization detectors.					
If a fire were to occur in FZ 42D, ordinary combustibles such as th through a prolonged pre-burning produced before flaming combus incipient stage would set off the a is still small. Activation of the del room. The detection system wou fighting activities. The fire brigad need for manual actuation of the provided) and use the available n	e plastic battery cells (incipient) stage in will tion begins. The hot automatic detection sy tection systems would alert the control ro- le would assess the fi total flooding CO, sup	A fire of this type can go hich visible smoke and heat is gases produced during the ystem in the area while the fire d be annunciated in the control om to initiate manual fire re situation, determine the opression system (where			
Fire Zone 42D is located above F With a lack of combustibles within threaten the existing gap seal. A normally contain personnel excep path of travel. As a result, transie zone.	n FZ 114, there is insuditionally, the undergot for maintenance or	ufficient hazard present to ground pipe tunnel does not inspection and is not a normal			
If a fire were to occur in these are beyond the room of origin. The d areas adequately protected the fi	lefense in depth fire p	protection provided in these			
Fire Zone 115 to 45, 46B and 46C Gap Seals					
Three gap seals exist in the barrie in the barrier between FZs 15 and FZs 115 and 46C.					
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NRC FORM 366A (6-85)	U.S.	NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 3150-0104			
	LICENSEE EVENT REPORT (LER) TEXT CONTINUATION		ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 2055, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.			
FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER (6) PAGE (3)			
	uclear Plant - Unit 1	0 5 0 0 0 3 1 5	YEAR SEQUENTIAL Secure revision 9 4 0 0 6 01 1 3 0F 1 5			
IEXT (IT more spece is	required, use additional NRC Form 365A's) (17)	,				
	Fire Zone 115 is the Unit 2 ES normally contain combustibles adjacent fire area.	W Pipe Tunnel at ele Manual fire fighting	evation 587'. This zone does not equipment is available in			
Fire Zone 45 is the Unit 2 Engineering Safety System and MCC Room at elevation 609'6". This zone has a low combustible loading of approximately 21,800 BTU/sq./ft/ for a fire severity of 17 minutes.						
Fire Zone 46B is the Unit 2 Electric Power Systems MCC Room at elevation 609'6". This zone has a very low combustible loading of approximately 5,600 BTU/sq.ft. for a fire severity of 4 minutes.						
	detectors and a manually actu	lated CO ₂ suppressior n, it is assumed that t	s zoned ionization and infrared n system. For fire zones he fire would have been confined			
	type fire involving ordinary cor this type can go through a pro smoke and heat is produced b	nbustibles such as the longed pre-burning (in before flaming combust stage would set off the mall. Activation of the m. The detection syst activities. The fire bright for manual actuation ovided) and use the a	e automatic detection system in e detection systems would be stem would alert the control room gade would assess the fire of the total flooding CO_2			
	tunnel does not normally conta	of combustibles within existing gap seal. A ain personnel except	FZ 115, there is insufficient dditionally, the underground pipe			
	If a fire were to occur in these beyond the room of origin. Th areas adequately protected th	e defense in depth fir	e protection provided in these			
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NRC FORM 386A U.	5, NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 3150-0104				
LICENSEE EVENT REPORT (LER) TEXT CONTINUATION		ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 2055, AND TO THE PAPERWORK REDUCTION PROJECT (31500104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.				
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) PAGE (3)				
		YEAR SEQUENTIAL ANALYSION				
Cook Nuclear Plant - Unit 1	0 5 0 0 0 3 1 5	9 4 - 0 0 6 - 0 11 1 4 OF 1 5				
TEXT (If more space is required, use additional NRC Form 366A's) (17)						
Fire Zone 115 to 46D Gap Seals						
One gap seal exists in the barrie	er between FZs 115 ar	nd 46D.				
Fire Zone 115 is the Unit 2 ESW Pipe Tunnel at elevation 587'. This zone does not normally contain combustibles. Manual fire fighting equipment is available in adjacent fire area.						
Fire Zone 46D is the Unit 2 Electrical Power Systems AB Battery Room at elevation 609'6". This zone has a low combustible loading of approximately 44,600 BTU/sq.ft. for a fire severity of 34 minutes. The combustibles within this zone are predominately the plastic battery cells. This zone is protected by ionization detectors.						
If a fire were to occur in FZ 46D ordinary combustibles such as t through a prolonged pre-burning produced before flaming combu incipient stage would set off the is still small. Activation of the de room. The detection system wo fighting activities. The fire briga need for manual actuation of the provided) and use the available	he plastic battery cells g (incipient) stage in wistion begins. The hot automatic detection systems would build alert the control rou de would assess the fi total flooding CO ₂ sup	A fire of this type can go hich visible smoke and heat is gases produced during the ystem in the area while the fire be annunciated in the control om to initiate manual fire re situation, determine the opression system (where				
Fire Zone 46D is located above With a lack of combustibles with threaten the existing gap seal. normally contain personnel exce path of travel. As a result, trans zone.	in FZ 115, there is insu Additionally, the underget for maintenance or	ufficient hazard present to ground pipe tunnel does not inspection and is not a normal				
If a fire were to occur in these and beyond the room of origin. The areas adequately protected the states areas a states areas a states areas areas a states areas a states areas are	defense in depth fire p	rotection provided in these				
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NRC FORM 386A	- U.S	S. NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 31	50-0104
LICENSEE EVENT REPORT (LER) TEXT CONTINUATION		ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), 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 (6)	PAGE (3)
Cook Nuclear Plant TEXT III more scece is required, use additional NRC Form 3654		0 5 0 0 0 3 1 5	YEAR SEQUENTIAL Previous 9 4 0 0 6 0 1	1 5 OF 1 5
The defense-in-depth fir manual fire fighting equi do not significantly degr been reviewed in accord the event is not reportab	pment, ioni: ade the def lance with t	zation smoke detectors ense-in-depth fire prote he guidance provided	s, etc. The described d ection for the plant, and in Generic Letter 86-10	leficiencies I have

This event was also evaluated for design basis requirements. The applicable design basis associated with this event involves the general requirement to maintain defense in depth fire protection measures and specific requirements to fireproof styrofoam in the Unit 1 containment seismic gaps.

To address specific design basis requirements, it is noted that an Appendix R exemption request was submitted in 1984 for unsealed seismic gaps between the containment and the auxiliary building. The request was later supported by consultant technical evaluations which demonstrated successful safe shutdown capability while assuming fire propagation via seismic gaps.

An NRC SER, transmitted in 1985, concluded that not sealing these seismic gaps was "an acceptable deviation from the guidelines of Section D. 1(j) of Appendix A to BTP APCSB 9.5-1". Although Section III.G To Appendix R was considered in the referenced NRC evaluation, the acceptance criteria for fire area boundaries are set forth in Appendix A to BTP APSCB 9.5-1. Therefore, an exemption was not required or granted for unsealed seismic gaps pursuant to the requirement of Section III.G.

In conclusion, the subject event is not reportable under the LER system. The condition does not constitute operation prohibited by the Technical Specifications nor did it result in an unanalyzed condition that significantly compromised plant safety.