131				LIC	CENSEE EVE	NT RE	PORT	(LER)		U.S. NUC	CLEAR REG APPROVED EXPIRES 8	GULATO O OMB N 1/31/88	RY COM	MISSION
CILITY NAME (1)									DOCKET	NUMBER	(2)		PAC	GE (3)
D. C.	Cook	Nuc	lear 1	Plant,	Unit 2				0 5	0 10	0131	116	1 OF	0
TLE (4)														
Inoper	able	Fir	e Sea.	ls, No	t Identif	ied	Duri	ng Prio	r Ir	spec	tion	S		
EVENT DATE	5)		SEQUENTIA		REPORT DAT	E (7)		OTHER	FACILIT	IES INVOL	VED (8)	MOED	(5)	
ONTH DAY	YEAR YE	AR	NUMBER	NUMBER	MONTH DAY	YEAR		Cook	IIni	+ 1	0 151	0 1 0	1012	.1.
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OPERATING	Тн	S REPOR	T IS SUBMITT	ED PURSUANT	TO THE REQUIREM	S OF 1	0 CFR §: (0	Check one or more	of the fol	lowing) (11	1)			
MODE (9)	6	20.402	(b)		20.405(c)			50.73(a)(2)(iv)			73.7	1(b)		
POWER		20.405	(a)(1)(i)		50.36(c)(1)		_	50.73(a)(2)(v)			73.7	11(c)		
(10) 01	010	20.405	(a)(1)(ii)	-	50.36(c)(2)		-	50.73(a)(2)(vii)			OT belo	HER (Spe w and in	cify in Ab Text, NR	C Form
		20.405	(a)(1)(iii)	X	50.73(e)(2)(i)		-	50.73(a)(2)(viii)	(A)		366	A)		
	\vdash	20.405	(a)(1)(iv)	-	50.73(e)(2)(ii)		-	50,73(a)(2)(viii)	(8)					
		20.405			LICENSEE CONTACT	FOR THIS	LER (12)	50.73(8)(2)(X)						
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			COMPLET	E ONE LINE FO	R EACH COMPONENT	FAILUR	DESCRIBE	ED IN THIS REPO	RT (13)					
AUSE SYSTEM	COMPONE	T	MANUFAC-	REPORTABL TO NPROS	E	CAUSE	SYSTEM	COMPONENT	MA	NUFAC-	REPORT	ABLE		
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The penetrations have been added to the Plant's Fire Seal Surveillance Data Base to insure the seals will be inspected during future surveillances.

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-83)	LICE	NSEE EVENT REPORT	(LER) TEX	CONTINU	JATION	APPROVED (EXPIRES: 8/3	DMB NO. 3150-0104
ACILITY NAME (1)			DOCKET NUMBER	2)	LER NUM	BER (6)	PAGE (3)
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EXT (If more space is re	quired, use additional NRC	Form 366A'a/ (17)			<u></u>	<u></u>	<u> </u>
Con	ditions Pric	or to Event					
Uni (Re	t 1 operation fueling).	ng at 90 percent :	reactor t	hermal po	wer and Un	it 2 in Mod	le 6
Des	cription of	Event					
Dur App fir	ing a walkd endix R, the e sealant:	own of Plant Fire e following fire b	Barriers barrier p	to verif enetratio	ty compliand ons were dis	ce with 10 scovered wi	CFR 50
Fir	e Zone	Penetration	!	Discovere	ed	Sealed	
51		F-4116, F-4117, F-4119, F-4120, F-4122, F-4123	F-4118, F-4121,	April 8,	1986	April 9, 1	986
17B	1	C-12031		April 8,	1986	April 9, 1	.986
91		W-7523, W-7522		April 8,	1986	April 9, 1	1986
290	:	W-9742, W-9744, W-9743	W-9745,	April 8,	1986	April 10,	1986
29D	1	W-9746, W-9747,	W-9748	April 8,	1986	April 10,	1986
14		W-9490		April 8,	1986	April 10,	1986
96		₩-7507, W-7508		April 9,	1986	April 10,	1986
49		F-8033		April 22,	1986	April 23,	1986
55		F-8144		April 22,	1986	April 23,	1986
6A		W-7341	1	May 1, 19	986	May 1, 198	36
In pen all (IE and imp	each case a etrations 1 but F-8033 EE/SEALS). F-8144) ha elementation	fire watch was p isted were variou and F-8144 had n It is believed t ve existed withou of Appendix R as	osted with s piping, not been p that the p t fire se s the pene	hin 15 mi conduit reviously enetratic alant sir trations	nutes of d and cable y identified ons listed nee the ini- were not in	iscovery. penetration d as fire s (except for tial ncorporated	The hs and seals F-8033

the Plant's Fire Seal Surveillance Program at that time. Fire Seals F-8033 and F-8144 have been part of the Surveillance Program and were last inspected on July 14, 1985, with no deficiencies noted.

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(9-83) LICENSEE EVENT	LICENSEE EVENT REPORT (LER) TEXT CONTINUATION							
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)					
		YEAR SEQUENTIAL REVISION NUMBER NUMBER						
D. C. Cook Nuclear Plant, U	nit 2 0 15 10 10 10 3 11 6	8 6 - 0 1 5 - 0 1	0 3 0F 0 7					
TEXT (If more space is required, use additional NRC Form 396A's) (17)								

U.S. NUCLEAR REGULATORY CO

Cause of Event

Twenty-two (22) of the deficient penetrations were not previously identified in the Plant's Fire Protection Surveillance Program. The penetrations escaped identification during prior inspections.

Analysis of Event

The following is an analysis of the deficient fire seals. In summary, the evaluation concluded that the absence of fire rated seals on the penetrations has not resulted in any significant degradation of the fire barriers. The condition did not constitute an unreviewed safety question as defined in 10 CFR 50.59.

Penetrations W-9742 and W-9744 through W-9748 are conduit penetrations in a fire wall between the Screenhouse (FZ 142) and the Unit 2 ESW Pump Cubicles (FZ 29C and FZ 29D). There is a low fire loading in each of these zones. Smoke detectors are provided in Fire Zone 29C and Fire Zone 29D. The free space between the conduit and penetration opening is very small which would limit the passage of heat, smoke and combustible gases to an insignificant amount. Based on the preceding, it is unlikely a fire could develop to the magnitude necessary to breach the fire barrier through these penetrations.

Penetration W-9743 involves a non safety-related cable tray that runs vertically up the east wall of Fire Zone 29C then turns and penetrates the fire barrier into (and through) the Chemical Cleaning Tank Room of Fire Zone 84 in the Unit 2 Turbine Building. The cable tray penetration opening was found to be unsealed. Fire Zone 84 is protected with a wet pipe sprinkler system. A floor based fire originating in Fire Zone 84 would be controlled by the sprinkler system before igniting cable in this tray and breaching the barrier. If a floor based fire started in Fire Zone 29C, the detection system would provide an early warning alarm resulting in a response by the fire brigade to control the fire before igniting the cable in the tray. Finally, if a fire started in the tray, it could spread to both sides of the barrier but would not spread beyond the cable tray to other combustibles because of the sprinkler system in Fire Zone 84, the early warning detection system in Fire Zone 2 and rapid response of the fire brigade.

Penetration C-12031 involves an opening in the ceiling of the Motor Driven Auxiliary Feed Pump Room (FZ 17B). The opening communicates with the Unit 2 Turbine Building at elevation 591' (FZ 84) which is fully sprinklered. The underside of the opening had a one-half inch thick piece of plywood damming in place. Because Fire Zone 17B has virtually no combustibles, it is unlikely that any fire could have begun which would have ignited and thus penetrated the damming material. A fire starting above the opening would have activated the sprinkler system before igniting the damming material.

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NRC Form 38 (9-83)	LICENSEE EVENT REPO	ORT (LER) TEXT CONTINU	ATION APPROVED EXPIRES: 8/	EGULATORY COMMISSION OMB NO. 3150-0104 31/88
FACILITY N	IME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR SEQUENTIAL REVISIO NUMBER NUMBE	PAGE (3)
D. C.	Cook Nuclear Plant, Unit	20 50003116	8 6 - 0 1 5 - 0 1	0 4 0 0 7
	Therefore, it is extremely un direction through the subject Penetrations W-7522, W-7523, Auxiliary Building and the To the barrier is between Fire 2 barrier is between Fire Zone There are two penetrations in pipe passing through it. Eac with an aluminum skin. There penetration and the pipe confi both sides. Also, there are and a dry pilot protection sp on the Auxiliary Building Side	W-7507 and W-7508 en- arbine Building at ele cone 44N and Fire Zone 44S and Fire Zone 96 h each unit. Each of th pipe is insulated to is minimal, if any, figuration. The combo wet pipe sprinklers of prinkler system and id the of these penetration	ter the wall between evation 609'. In Un e 91. In Unit 2, th the openings has a with fiberglass and open space between ustible loadings are on the Turbine Build onization detection ons.	either the it 1, e large covered the low on ing side system
	Because of the minimal amount noncombustible material trave Turbine/Auxiliary Building wa both sides of the penetration the size necessary to spread Penetration W-9490 involves a a 1-inch conduit passing thro separating the unit 1 Transfor Northeast Turbine Room (Zone combustibles and an ionization fire loading and a wet pipe s provided,, low combustible lo the conduit and penetration of Auxiliary Building wall (3 fe spread from one side of the fe penetration.	t of opening at each persing the penetration all (3 feet) and the a, it is unlikely that from one side of the a one and one-half ind ough a fire barrier of ormer Room (Fire Zone 9). Fire Zone 14 has on detection system. Sprinkler system. Be out a system. Be out a system	penetration, the n, the thickness of fire protection prov t any fire could dev barrier to the othe ch unsealed penetrat n the 591' elevation 14) and the Unit 1 s an insignificant a Fire Zone 79 has a cause of the fire pr 1 amount of space be kness of the Turbine ikely that a fire co ther via this unseal	the rided on relop to r. ion with mount of very low otection riween r/ puld red

Penetrations F-4116 through F-4123 located in the floor at Elevation 633' of the Auxiliary Building between Fire Zone (FZ) 51 above and Fire Zones 44N (Unit 1)/44S (Unit 2) below. The penetrations were found between the Unit 1 and 2 Letdown Heat Exchanger Rooms on elevation 633' and the Unit 1 and 2 Volume Control Tank Rooms below. Although there is detection and suppression surrounding the Letdown Heat Exchanger and Volume Control Tank Rooms, there is none in the rooms. These rooms each have an extremely low amount of combustibles. This low combustible loading makes it unlikely that a fire of a magnitude necessary to spread between the two rooms could start in either room. The combustible loading in each of the fire zones is low at under 10 minutes for Fire Zones 44S and 51, and it is under 20 minutes in Fire Zone 44N. Additionally, a fire starting elsewhere in 44N, 44S, or 51 is not expected to develop to the magnitude necessary to overpower the suppression systems and travel the tor wous path necessary to spread through the subject penetrations. Although there is hydrogen in the Volume Control

LICENSEE	EVENT REPORT	(LER) TEXT	CONTINUATION
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U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB	NO.	3150-0104
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FACILITY NAME (1)					DOCKET NUMBER (2)		LE	RNUM	PAGE (3)						
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Tank Rooms, it is not being considered as part of the combustible loading for the rooms. Within these rooms, the hydrogen is completely contained in the tanks and piping which are Seismic Class I. The combustibles located in these rooms are low enough that we feel a fire in either room, even if undetected, could not damage the tanks or piping to the degree necessary to release hydrogen into the rooms. Although it is unlikely that a fire could generate enough heat in the room to increase the tank pressure, if it did, the tank is equipped with a safety-relief valve which vents directly to the Waste Gas Holdup Tanks. Because of the construction of the tanks and piping which contain the hydrogen, it is also unlikely that a hydrogen leak could occur in these rooms under non-fire conditions.

Fire Seal No. W-7341 is located in the fire wall separating the Auxiliary Building Pipe Tunnel (Fire Zone 6A) from the Unit 2 Quadrant 2 Piping Tunnel (Fire Zone 22). The open penetration is 5 inches in diameter through a wall 3 feet in depth at approximately the 606' elevation.

Both Fire Zones 6A and 22 have no detection or suppression systems and each has a negligible fire loading. Since access to Fire Zone 6A is through a normally locked, high radiation area and does not provide access to any other plant areas, the potential for storage and/or transport of transient combustibles in or through the pipe tunnel is minimal. Also, there are no exposed combustibles located within the pipe tunnel. These factors make it very difficult to either ignite a fire within the fire zone or aid in the transfer of a fire through the open penetration. Additionally, Fire Zone 6A does not contain any safe shutdown equipment.

Fire Zone 22 has a very large volume starting at floor elevation 573' and rising up to the floor/ceiling assembly at elevation 650'. Smoke and heat from a fire originating in Fire Zone 22 would tend to travel up to the ceiling of the room where a buildup of approximately 42 feet would be required before the heat and hot gases would begin flowing through the open penetration. Since the fixed combustible loading in the area is negligible, the only source of fire that could generate the amount of smoke and heat to impact the penetration could only be caused by transients. The back portion of Fire Zone 22 which interfaces with the pipe tunnel is a radiation controlled area of the Auxiliary Building where the use and transfer of transients is limited, with frequent inspections performed for housekeeping and combustible material. Therefore, the probability of a large transient fire impacting on the open penetration is highly unlikely.

Due to 1) the lack of combustibles in the area and 2) the control of transient combustibles into each area, the likelihood of a fire from either zone impacting and spreading the fire through the open penetration is nil.

Fire Seal No. F-8033 is located in the floor of the Unit 1 HVAC Vestibule (Fire Zone 49) and penetrates to the Unit 1 Quadrant 2 Penetration Cable Tunnel (Fire Zone 38) below. This penetration contains two cable trays, 1 AMP 4 and 1 AMC 4, and is sealed between the concrete opening and the cable trays. Cable tray 1 AMP 4 is sealed inside the cable tray. Cable tray 1 AMC LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
		YEAR SEQUENTIAL REVISION NUMBER NUMBER	
D. C. Cook Nuclear Plant, Unit	20 5 0 0 0 3 1 6	8 6 - 0 1 5 - 0 1	0 6 0 0 7

4 has a deteriorated seal inside the cable tray. Apparently when new cables were being pulled through the seal, a cone shaped section of foam was broken off. This cone shape is approximately 6 inches deep and 3 inches wide at the top of penetration. Cable tray 1 AMC 4 is of the solid type and is normally provided with a solid cover.

Fire Zone 49 is protected with an ionization smoke detection system for the general area. A water spray system and thermistor detector are provided for protection of the charcoal filter systems also located in the zone.

Fire Zone 38 is protected with an automatic carbon dioxide suppression system using cross-zoned ionization smoke and infra-red detectors.

If a fire were to begin in Fire Zone 49, the natural tendency of the fire to spread would not be through this floor penetration. The cable tray cover would help to limit the spread of fire either into or out of this tray and would also limit the flow of fresh air, thereby slowing the fires growth inside the tray. The available smoke detection system would alert the fire brigade to the developing fire.

If a fire were to begin in Fire Zone 38, the detection system would detect a fire in the early stages of development and alert the fire brigade prior to discharging the carbon dioxide system. Upon discharge of the carbon dioxide suppression system, it would extinguish the fire prior to impacting on the deteriorated fire seal.

The impact of a fire on the deteriorated seal would have been minimized by several factors. First the size of the removed section was only a portion of the entire seal. An acceptable 3-hour foam seal is at least 12 inches deep. The removal of a section 6 inches in depth would have left a sufficient amount of foam in place to retard the fires growth long enough for detection of the fire, extinguishment of a fire in Fire Zone 38 and/or to initiate fire fighting tactics by the plant fire brigade.

Fire Seal No. F-8144 is located in the floor of the Unit 1 Switchgear Room Cable Vault (Fire Zone 55) and penetrates to the Unit 1 Engineered Safety System and MCC Room (Fire Zone 41) below. This penetration contains cable trays 1E1-C14 and 1E1-C15 and is sealed between the concrete opening and the cable trays. Cable tray 1E1-C15 is sealed inside the cable tray. Cable tray 1E1-C14 was not sealed inside the cable tray with foam, but did have approximately 3 inches of noncombustible fiberfax damming material packed in the hole. Both cable trays are of the solid type and are normally provided with solid covers.

Both Fire Zones 41 and 55 are protected by an automatic carbon dioxide suppression system using cross-zoned ionization and infra-red detectors. Because the cable trays are normally covered, the effect of the opening on the carbon dioxide system in Fire Zone 55 would have been minimized. The fire loading for each area is less than a half hour. Had a fire involved

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P.O. Box 458, Bridgman, Michigan 49106 (616) 465-5901

June 6, 1986

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

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Document Control Manager:

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

86-015-01

Sincerely,

WAX ma 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
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