## REGULA RY INFORMATION DISTRIBUTIC SYSTEM (RIDS)

ACCESSION NBR: 8711300256 DOC. DATE: 87/11/24 NOTARIZED: NO DOCKET # FACIL: STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530 AUTH. NAME AUTHOR AFFILIATION BRADISH, T. R. Arizona Nuclear Power Project (formerly Arizona Public Serv HAYNES, J. G. Arizona Nuclear Power Project (formerly Arizona Public Serv RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-005-00: on 871030, while unit in mode 3 main steam isolation sys automatically actuated. Caused by faulty logic card MSIV-170. Faulty logic card replaced. W/871124 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR L ENCL L SIZE: TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NDTES: Standardized plant.

05000530

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	ID CODE/NAME .	LTTR	ENCL	ID CODE/NAME	LTTR	ENCL	
	PD5 LA	1	1	PD5 PD	1	1	
	LICITRA, E	1	1	DAVIS, M	1	1	
INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2	
	AEOD/DOA	1	1	AEOD/DSP/NAS	1	- 1	
	AEOD/DSP/ROAB	2	2	AEOD/DSP/TPAB	1	1	
	ARM/DCTS/DAB	1	1	DEDRO	1	1	
	NRR/DEST/ADS	1	0	NRR/DEST/CEB	i	1	
	NRR/DEST/ELB	1	1	NRR/DEST/ICSB	1	1	
•	NRR/DEST/MEB	1	1	NRR/DEST/MTB	1	1	
	NRR/DEST/PSB	-• <b>1</b> °-	.1	NRR/DEST/RSB	1	1	
	NRR/DEST/SGB	1	4	NRR/DLPQ/HFB	1	1	
	NRR/DLPQ/QAB	1	1	NRR/DOEA/EAB	1	1	
	NRR/DREP/RAB	1	1	NRR/DREP/RPB	2	2	
	NRR/DRIG/SIB	1	1	NRR/PMAS/ILRB	1	1	
<	REG FILE 02	1	1	RES DEPY GI	<b>1</b>	1	
-	RES TELFORD, J	1	1	RES/DE/EIB	1	1	
	RGN5 FILE 01	1	1				
EXTERNAL:	EG&G GROH, M	5	5	H ST LOBBY WARD	1	i	
-	LPDR	1	1	NRC PDR	1	1 🕚	
	NSIC HARRIS, J	1	1	NSIC MAYS, G	1	1	

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ACILITY NAME (1) Palo V	erde Unit	 t 3				D (	OCKET NUMBER	2) 0   5   3   0	PAGE (3) 1 OF 0 3
Main S	team Iso	lation Svs	tem Actuat	ion due 1	o Fault	v Logic B	oard		
EVENT DATE (	(5)	LER NUMBER (6	) <sup>,</sup> R	EPORT DATE (7)		OTHER P	ACILITIES INVOL	VED (8)	
IONTH DAY	YEAR YEAR	SEQUENTIAL NUMBER	NUMBER MONTH	DAY YEA		FACILITY NAM	ES	DOCKET NUMBER	(\$)
1 0 3 0	8 7 8 7	-0005	- 0 0 11	2 4 8	7 N/A			0 151010	
OPERATING	3 THIS REP	ORT IS SUBMITTED	PURSUANT TO THE	REQUIREMENTS	DF 10 CFR §: /	Check one or more o	f the following) (11	)	
MODE (9)	20.4	ю2(b)	. 20.40	5(c)	<u>. X</u>	50,73(a)(2)(iv)		73.71(b)	
	0,0 - 20,4	405(a)(1)(ii)	50,36	(c)(1) (c)(2)		50,73(a)(2)(v) 50,73(a)(2)(vii)		OTHER (Som	city in Abstract
	20.4	405(a)(1)(iii)	50,73	a)(2)(i)		50,73(s)(2)(viii)(A	,	below and in 366AJ	Text, NRC Form
	20.4	105(a)(1)(iv)	50,73	a)(2)(ii)		50,73(s)(2)(viii)(8			
	20,4	105(a)(1)(v)	50.73	AI(2)(III)	THIS LER (12)	50.73(a)(2)(x)		<u> </u>	
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Thans-		ich Camal	*****				AREA CODE	2 0 2	2 5 2 1
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AUSE SYSTEM	COMPONENT	MANUFAC-	REPORTABLE TO NPRDS	CA	USE SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE	
X J <sub>I</sub> E	E <sub>I</sub> C <sub>I</sub> B <sub>I</sub> D	A <sub>1</sub> 6 <sub>1</sub> 4 <sub>1</sub> 0	N				й. Г. Г. І.		
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		SUPPLEMEN	TAL REPORT EXPECT	ED (14)			EXPECTE	MONTH	DAY YEAR
YES (If yes, con	nplete EXPECTED S	SUBMISSION DATE!	и	X NO			DATE (15		
STRACT [Limit to	1400 speces, i.e., ep	proximately fifteen si	ingle space typewritten i -	ines) (16)		۰.		,	
At ap (HOT actua	oproximat STANDBY) ated. Th	ely 1618 M when the e MSIS is	IST on Octo Main Steam part of th	ber 30, Isolatio e Engine	1987, Pa on Syste ered Saf	alo Verde em (MSIS) fety Featu	Unit 3 w was autor res Actu	as in Mod natically ation Sys	e 3 tem.
Durin cabir	ig trouble net. a Ma	eshooting in Steam a	to locate and Feedwat	a ground er Isola	on a Cl	lass 1E 12 Ive (MSFIN	5 VDC di	stribution	n as
deene	rgized a	t 1617 MST	and reene	rgized a	t 1618 M	IST. When	reenera	ized. Main	n l
Steam	n Isolati	on Valve (	MSIV) SGE-	UV-170 o	pened ar	nd a steam	generat	or 1 MSIS	· -
autom	latic acti	uation occ	curred due	to high '	level ir	n the stea	m generat	tor.	
Ther	oot caus card was factoril	e of the e s tested a y and was	event was a and also fo installed	faulty und to be in the le	logic ca e faulty ogic cat	ard for MS /. A thir pinet as c	IV-170. d logic o orrectivo	A second card teste action.	ed
logic <u>s</u> atis	irst and	second ca	rds will b	e sent to	o the ve	endor for	analysis	and rewor	rk.
logic satis The f			/ious simil	ar event:	s report	ted.			
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Additive Mark (1) Deckty Models (2) Les Models (4) Les Models (4)   Pailo Verde Unit 3 0 is jojojoj5 j 3j0 8j7 0 joj5 _ 0j0 0j2 0j2 0j2   DIA draws in marked, an addew MMC for 384 VUID 0 is jojojoj5 j 3j0 8j7 0j0 joj5 _ 0j0 0j2	IRC Form 344A 3-83)LICF	ENSEE EVENT REPOR	T (LER) TEXT CONTINU	ATION	LS, NUCLEAR REGULATOR APPROVED OMB NO. 3 EXPIRES: 8/31/86	Y COMMISSIC
Palo Verde Unit 3 [0 15 10 10 15 13 10 817 ] 0105 ] 010 12 0rl 0 CT decomposition of the example of the exampl	ACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER	(6) P.	AGE (3)
At approximately 1618 MST on October 30, 1987, Palo Verde Unit 3 was in Mode 3 (HOT STANDBY) when the Main Steam Isolation System (MSIS) was automatically actuated. The MSIS is part of the Engineered Safety Features Actuation System (ESFAS)(JE) and is actuated by a receipt of a 2-out-of-4 high containment pressure, low steam generator pressure, or high steam generator water level signal. At the time of the event the Reactor Coolant System (RCS)(AB) was at normal operating temperature and pressure. The Secondary Plant was at ambient temperature and depressurized with all Main Steam Isolation Valves (MSIV)(ISV) and MSIV bypass valves (V) closed. Instrument and Control (I&C) Technicians were troubleshooting, in accordance with an approved work control document, a ground which was on Class IE 125 VDC (EJ) distribution cabinet (CAB) PKA-M41. Each module in the Main Steam and Feedwater Isolation Valves (MSIV) Jogic cabinet, which receives power from PKA-M41, was deenergized and reenergized individually in a attempt to locate the ground. At IGIT MST the entire MSFIV logic cabinet was deenergized in an attempt to locate the ground and was reenergized at IGI8 MST. Steam Generator (SG) 1 MSIV SGE-UV-170 opened and a Steam Generator 1 high level MSIS automatic actuation occurred. The high level was caused by steam generator swell caused by the increased steam flow when MSIV-170 opened. The MSIS then terminated the steam blowdown by isolating steam generators (ANN). The control room operators then verified the MSIS actuation per appendix M of 42FP-32201 (Emergency Operations). This verifies that all the valves were in their actuated positions. After verification of the MSIS, the MSIS was reset in accordance with appendix R of 43EP-32201 at I644 MST and the plant was stabilized. The second card was tested and produced the same results as the first card. The first and second card was installed to replace the original card. The second card was tested and produced the same results as the first card. The first and second cards	Palo Verde Unit 3	/RC Form 3054/s/(17)	0  5  0  0  0  5  3  0	8 7 - 0 0	5 _ 0 0 0 2	OF 0
bench where the initial event symptoms were duplicated. A third card was installed in the MSFIV logic cabinet and tested approximately 50 times without duplicating the event symptoms. The first and second faulty logic cards will be sent to the vendor for analysis and rework. The manufacturer of the cards is Automation Industry Vitro Laboratories and the model number is 3205-1021. Corrective action to prevent recurrence was to replace the faulty logic card with a new functional logic card. A root cause analysis will be completed	At approximately I (HOT STANDBY) wher actuated. The MSI (ESFAS)(JE) and is pressure, low stea signal. At the time of the operating temperat temperature and de and MSIV bypass va were troubleshooti ground which was o Each module in the cabinet, which rec individually in an logic cabinet was reenergized at 161 Steam Generator 1 level was caused b when MSIV-170 open isolating steam ge The control room o Control Board (MCB verified the MSIS .Operations). This positions. After with appendix R of event duration was The root cause of MSIV-170. A secon second card was te	AC form 3024 (1)(17) 1618 MST on Octobe 1 the Main Steam I IS is part of the IS 2 event the Reactor 2 event the Reactor 3 and pressure. 3 pressurized with 3 lves (V) closed. 3 in accordance 3 in accordance 3 in accordance 3 in accordance 3 min Steam and Former 4 attempt to locate 4 deenergized in an 18 MST. Steam Gen- 18 MST. Steam Gen- 19 high level MSIS and 3 y steam generator 3 in actuation per apply 3 verifies that allower 4 step-32ZO1 at 16 4 3 EP-32ZO1 at 16 5 26 minutes. The event was an 3 in actuation per depresent 5 verifies that allower 5 veri	<pre>10  5  0  0  5  3 0 r 30, 1987, Palo Ve solation System (MS Engineered Safety Fo ceipt of a 2-out-of- ure, or high steam for r Coolant System (Re The Secondary Plan all Main Steam Isol Instrument and Cont with an approved we C (EJ) distribution eedwater Isolation V PKA-M41, was deenergy e the ground. At 10 attempt to locate for erator (SG) 1 MSIV S utomatic actuation of swell caused by the n terminated the stead licensed) identified NN). The control n endix M of 43EP-3ZZC I the valves were in he MSIS, the MSIS was 14 MST and the plant internal fault in the led to replace the of the same results as output to apply the same results as the s</pre>	rde Unit 3 wa rde Unit 3 wa IS) was auton eatures Actua 4 high conta generator wat CS)(AB) was a nt was at amb ation Valves trol (I&C) Te ork control CAB /alves (MSFIV gized and ree 517 MST the e the ground an GE-UV-170 op occurred. Th e increased s eam blowdown 	as in Mode 3 matically ation System ainment ter level at normal bient (MSIV)(ISV) echnicians document, a 3) PKA-M41. /) logic energized entire MSFIV ad was bened and a be high steam flow by <u>s</u> by Main s then // ted accordance zed. The ard. The	
Corrective action to prevent recurrence was to replace the faulty logic card with a new functional logic card. A root cause analysis will be completed	first and second card was te first and second c bench where the in installed in the M duplicating the ev be sent to the ven is Automation Indu	isted and produced ards were both tes itial event sympto SFIV logic cabined ent symptoms. The dor for analysis a stry Vitro Labora	the same results as sted in the logic ca oms were duplicated t and tested approxi e first and second f and rework. The mar tories and the mode	s the first c binet and on A third ca imately 50 ti Faulty logic ufacturer of I number is 3	ard. The a test ard was mes without cards will the cards 205-1021.	•
upon receipt of the vendors findings.	Corrective action with a new functio upon receipt of th	to prevent recurre mal logic card. / e vendors findings	ence was to replace A root cause analys S.	the faulty l is will be co	ogic card mpleted	×

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NRC Form 366A (9-83)	LICENSEE E	T (LER) TE	XT CONT	U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/88							
FACILITY NAME (1)			DOCKET NUMBER (2)			LI	ER NUMBER (6	6) PAOF (3)			a .
	•				Ţ	YEAR SEQUENTIAL ALVIS					
Palo Verde	Unit 3		0 15 10 10	101513	108	. 7	0.015	0.0	0.2		۰.2
TEXT (If more space is required,	use additional NRC Form 305A1	e/ (17)		101313	1010				015	OF	03
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There wer which con system de public.	e no structure tributed to th sign. Therefo	es, systems, e event. A pre there wa	or comp 11 valve s no thr	onents i s actuat eat to t	noper ed as he he	rable s per ealth	prior t the app and sat	to the e proved fety of	vent the		
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Arizona Nuclear Power Project P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

> 192-00317-JGH/TRB/JEM November 24, 1987

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

Dear Sirs:

31

Subject: Palo Verde Nuclear Generating Station (PVNGS) Unit 3 Docket No. STN 50-530 Licensee Event Report 87-005-00 File: 87-020-404

Attached please find Licensee Event Report (LER) No. 87-005-00 prepared and submitted pursuant to 10CFR 50.73. In accordance with 10CFR 50.73(d), we are herewith forwarding a copy of the LER to the Regional Administrator of the Region V office.

If you have any questions, please contact T. R. Bradish, Compliance Lead at (602) 393-3531.

Very truly yours,

Taynoz 2

J. G. Haynes Vice President Nuclear Production

JGH/TRB/JEM/kj

Attachment

cc: 0. M. DeMichele (all w/a) E. E. Van Brunt, Jr. J. B. Martin J. R. Ball R. C. Sorenson E. A. Licitra A. C. Gehr INPO Records Center

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