ACCELERATED ISTRIBUTION DEMONSTRATION SYSTEM

### REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

W/8

ltr.

i

I

I

Ι

T

ACCESSION NBR:9001250142 DOC.DATE: 90/01/19 NOTARIZED: NO DOCKET # FACIL:50-275 Diablo Canyon Nuclear Power Plant, Unit 1, Pacific Ga 05000275 AUTH.NAME AUTHOR AFFILIATION GREBEL.T.L. Pacific Gas & Electric Co. SHIFFER,J.D. Pacific Gas & Electric Co. RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-014-01:on 891121, potential degradation of containment recirculation sump due to inadequate procedures.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR \_ ENCL \_ SIZE: 28 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME PD5 LA ROOD,H	COPII LTTR 1 1	ES ENCL 1 1	RECIPIENT ID CODE/NAME PD5 PD	COP LTTR 1	IES ENCL 1
INTERNAL:	ACRS MICHELSON ACRS WYLIE AEOD/DSP/TPAB DEDRO NRR/DET/EMEB9H3 NRR/DLPO/LHFB11 NRR/DOEA/OEAB11 NRR/DST/SELB 8D NRR/DST/SPLB8D1 NUDOCS-ABSTRACT RES/DSIR/EIB	11111111111	111111111111111111111111111111111111111	ACRS MOELLER AEOD/DOA AEOD/ROAB/DSP NRR/DET/ECMB 9H NRR/DET/ESGB 8D NRR/DLPO/LPEB10 NRR/DREP/PRPB11 NRR/DST/SICB 7E NRR/DST/SICB 7E NRR/DST/SRXB 8E REG FILE 02 RGN5 FILE 01	2 1 2 1 1 2 1 1 2 1 1 1 1	2 1 2 1 1 2 1 1 2 1 1 1
EXTERNAL:	EG&G WILLIAMS,S LPDR NSIC MAYS,G NUDOCS FULL TXT	4 1 1	4 1 1 1	L ST LOBBY WARD NRC PDR NSIC MURPHY,G.A	1 1 1	1 1 1

### NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM PI-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED TOTAL NUMBER OF COPIES REQUIRED: LTTR 38 ENCL 38

٠ ÷. 1 . .

**Pacific Gas and Electric Company** 

77 Beale Street San Francisco, CA 94106 415/972-7000 TWX 910-372-6587 James D. Shiffer Vice President Nuclear Power Generation

January 19, 1990

PG&E Letter No. DCL-90-018

U.S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington, D.C. 20555

Re: Docket No. 50-275, OL-DPR-80 Docket No. 50-323, OL-DPR-82 Diablo Canyon Units 1 and 2 Licensee Event Report 1-89-014-01 Potential Degradation of the Containment Recirculation Sump Due to Inadequate Procedures and Personnel Error

Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(ii)(A), PG&E is submitting the enclosed supplement to Licensee Event Report (LER) 1-89-014 regarding the potential degradation of the Units 1 and 2 containment recirculation sumps and design control deficiencies with the Unit 1 sump as-built configuration. In PG&E Letter DCL-89-321, dated December 21, 1989, PG&E committed to supplement the LER with a detailed discussion of the analysis and evaluation of this event and the actions being taken to prevent recurrence.

This event has in no way affected the health and safety of the public.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,

J. D. Shiffer / 12 Canducon

J. D. Shiffer

cc: A. P. Hodgdon J. B. Martin M. M. Mendonca P. P. Narbut H. Rood CPUC Diablo Distribution INPO

Enclosure

DCO-89-EN-N025

3025S/0076K/DW0/2246

9001250142 900119 PDR ADOCK 05000275 S PDC





															-	Ò									
].						-	LIC	ENS	EE E	VENT	r R	EPOR	т (	LER)											
FACIL	117 10	E (1)	נס	IABLO	CAT	IYON UN	IT	1			_			-	_			80	5101	010	# (2) 1 2	71	5 1	41 ( 1 of	1) 121.
	-(4)	POT			GRAI	ATION	OF EDU	THE RES	CON		ME	NT R	ECI ER		AT:	ION	SUN	1P							
EVEN	BATA (	5)			ER (6)	)	REPOR	TAG TI	E (7)	<b>[</b>						THE	FACI	LITIE		DL VEI	(0)				
	DAY	YEAR		SEQUEN MUNS	ER	REVISION	HONT!	DAY	YEAR	DI	AB	L0 C	ANY	ON U	NI	nes T2					0	KET 1 15 [0	10 10	(5) 3 1_1	2
11	21	89	89 mus	011	14		01	19 1 10 T	90 He neg		Ints	OF 10	CFR	: (1	1)						سا_	<u>15 10</u>	10 10	<u></u>	
	ENATING IDOE (1	6							·																
LEVE (10		010	]			Х	10	GR -	<u>50.7</u>	<u>3(a)</u>	(2	<u>)(</u> ii	)(A	)							-				
						-	en bei	ER (S low an IA)	pocify d in t	, în Al Lant, î	nstr IAC	ect Ferm	•										'		
		·	L		· · · · ·			- 1	विद्य	E com	ACT	FOR TH	IS L	ER (12)	1										
TE	RENC	E L.	GREE	BEL,	REG	JLATORY	° CO	MPLI		E SU	IPE	RVIS	OR			<u> </u>			-	805	11 2000	<u>. ( ••</u> • 595	<u>-47</u>	<u>*!(*</u> 20	
CALSE	5+5*6+	:0=PC	4[4]	RANJFA:		REPORTABLE		FAIL	URE DE	SCRIM	USE	N THIS SYSTEN	COI	AT (13)	T	RA II		RE	GRIA	s, e	<u>.                                    </u>				
	┟──	┼──			╉	10 40403	┼╴			-†-	-		┢		╉	101		<u> </u>		-					
	┨╌└─	┼┸╌┙					╋				-		╀╹		╇	1				-					
																									_
				<u></u>			u Ref	ORIE	1710	<u>.D (14)</u>	)						<u> </u>		-	{ t P{ 508#]	:11:2 353:2*	f		1	
76	S ( ) f y	es. co	splete	E+PEC*E	SUB	ISSION DAT	()		<u> </u>	MO										04*6	(15~			{	
		Durin the cas-bi FSAR iden Jnit Jorob cons cons at va Dn No	ng th conta jilt Upda tifie l su gn dr lems truct ariou	ie Un iinme sump ite. id de imp. rawin with tion is til per 2	it i nt n cor As bris The gs a the defi mes 1, 1	third recircu figura a resu s in th Unit und the sumps icienci at-pow	re lat lt, e s FS es, er n e	fuel ion n nc the ump AR L hick anc with valu	ling sum ot i e Un and scr Jpda in in op nout	out p id n ac it 2 een te. clud enin ade on c	ag len cos co f led g u f b	e, a tifi rdan ump een of Uni of t ate the	n i ed ce was con ura er t 1 he con deb	nspe debr with ins figu tion sum sump side ris	cti is th pec rai sti ac rai	ion in ctec tion as igar scr cces tion the Base	on the desi d. n di in a tior een ss h n of e Ur	Oct su gn Thi ffe cco id as- atc EC	obe: mp ; drav s in ren rdan ent: bui bui bui fo CS ( 1 si thi	r 1 and nsp t f ifi it or ope ump	7, 1 an gs a ecti rom wit ed o each rabi	989 nd on the h t the Un lit erm	the als he it y.	f o d	
		LIIAT	the Droot	ELLS	COL of f	he deb	ris	in in	the	ave Uni	ue t b	en d 1 su 10 C	egr np	Was 7	• rep 271	bad Por by C	sea ted	as	a f	s e our	-hou	atl r,	on,		

4

٠

F

3025\$/0076K

. λ I. .

•					
NRC Form 366/ 19 831 -	LICENSEE EVENT R	EPORT (LER) TEXT CONTINU	ATION	U.S. NUCLEAR REGULATORY COMM APPROVED OMB NO 3160-010 EXPIRES: 8/31/86	AISSION p4
FACILITY NAM	E (1)	DOCKET NUMBER (2)	LER NUMBE	A (6) PAGE (3)	i
			VEAR SEQUENT	AL SUMEVISION	
					. 1-
TEXT (# mere te	CALLET ON ONE 1 1		<u>8   9  D    </u>	4 1-10 11 101 210 12	, 17_
Ι.	Plant Conditions				
	Unit 1 and Unit 2 have oper operation with the condition	rated in various modes in ons described in this Lic	cluding full ensee Event	power Report (LER).	
11.	Description of Event				
	Background				
	As a result of a problem ic inspection was performed or recirculation sump (BE)(BP) 3/16-inch mesh screen was i but was not installed on th showed the 3/16-inch mesh s The inspection also noted s assembly but outside the lo	dentified at another nucl o October 17, 1989, of th (RVR). The inspection i installed as required on the lower grating assembly creen on the lower and u some debris located insid ower grating assembly.	ear power pl e Unit 1 con dentified th the upper gr . Drawing 4 pper screen e the upper	ant, an tainment at the ating assembly 43259 Rev. 8 assemblies. grating	
	As a result of these proble containment recirculation s problems:	ems, an investigation was sumps. The investigation	initiated r identified	egarding the the following	
-	1) Housekeeping/ - Containment Inspections	Debris was found in the in and outside the Unit	Unit 1 sump 2 sump.	and both	
	2) Sump Design/Control -	The recirculation sump a identified as different Update did not reflect t The Unit 1 recirculation with the latest intended accordance with the FSAR recirculation sump was no latest intended design by the FSAR Update.	s-built conf for each uni he latest in sump was in design but Update. Th ot in accord ut was in ac	iguration was t. The FSAR tended design. accordance not in e Unit 2 ance with the cordance with	
	3) Unit 1 Sump As-Built - Configuration	Deficiences were identif configuration of the Unit	ied in the a t l recircul	s-built ation sump.	
	4) Sump Access Hatch - Openings At-Power	At various times during punits, the access hatch or recirculation sump upper opened to perform calibration.	oower operat of the conta grating ass ation of leve	ion of both inment embly was el transmitters.	
	The problems were reviewed for reportability. On Nove Unit 1 sump was reported as with 10 CFR 50.72(b)(2)(i). reporting, PG&E is voluntar	in accordance with 10 CFF mber 21, 1989, the preser a four-hour, non-emerger Although the other prot ily including all of the	8 50.72 and the of the de the of the de the of the de the de the de the	O CFR 50.73 bris in the accordance t require this LER.	

ei

۰,

3025S/0076K

Į

ţ.



\*

• 1

U.S. NUCLEAR REGULATORY COMMISSIO APPROVED OMB NO 3150-0104 FXPIRFS- #/31/88

FACILITY	' NAME UU

NRC Form 366A (8-83)

FACILITY NAME (1)		DOCKET NUMBER (2)	LER HUMBER (6)	PAGE (3)				
			YEAR SEQUENTIAL STREVEION					
DIABLO CAN	YON UNIT I	0 5 0 0 2 7 5	8 9 - 0 1 4 - 0 1	0 3 12 7				
TEXT III mare apoce is requ	ted, use additional NRC Form 385A's/ (17)							
Α.	Events			`				
			×					
	Event 1. Housekeen	ing/Containment Inspections						
	STOLL IN HOUSENCED	There of the time it the beautions						

On October 17, 1989, the NRC Resident Inspector inspected the Unit 1 containment recirculation sump and identified debris inside the upper grating assembly but outside the lower grating assembly. The debris consisted of a carbon steel hacksaw blade, a wipe cloth, a reflective metal insulation strap, and a piece of duct tape. Based on the condition of the debris, PG&E believes that it was probably left in the sump following a May 11, 1989, LT-940 (IP)(LIT) calibration (wipe cloth. insulation strap, and duct tape) and early 1R3 outage work (hacksaw blade). PG&E requested Westinghouse to analyze the impact of the debris. assuming it was drawn into the residual heat removal (RHR) intake suctions, on emergency core cooling system (ECCS) recirculation capability following a loss of coolant accident (LOCA).

On October 22, 1989, the System Engineer walked down the Unit 2 containment and found several small articles at various locations outside of the upper grating assembly. The articles found were not of sufficient size to adversely affect the performance of the sump, either individually or collectively.

On November 1, 1989, during a Unit 2 containment walkdown, an NRC inspector and a radiation protection (RP) technician found a utility knife, a flareless fitting tubing cap, and a tubing hanger behind the inclined portion of the upper grating assembly. Additional miscellaneous debris was found on November 3 on the sump upper floor level.

On November 4, 1989, with Unit 2 in Mode 3, a 12-foot length of horizontal RHR sump suction piping was radiographed. Radiography identified a small nut located approximately 35 inches from the centerline of the RHR pump 2-2 vertical suction pipe. Justification for Continued Operation (JCO) 89-25 was written justifying continued operation of Unit 2 until the nut could be removed during the Unit 2 third refueling outage.

### Event 2: Sump Design/Control

The October 17, 1989, a Unit 1 sump inspection identified that a 3/16-inch mesh screen was not installed on the lower grating assembly but was installed on the upper grating assembly. This configuration is in accordance with a 1981 design change. However, Drawing 443259 Rev. 8 and FSAR Figure 6.2.11 showed the 3/16-inch mesh screen on both the lower and upper grating assemblies.

3025S/0076K

. •

· · · ·

.

. e · ·

LICENSEE EVEN	IT REPORT (LER) TEXT CONTIN	U.S. HUCLEAR UATION APPROVE EXPIRES	REGULATORY COMMISSI ED OMB NO 3150-0104 8/31/88
ACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)	PAGE (3)
·	· · · · · · · · · · · · · · · · · · ·	YEAR SEQUENTIAL AND NUMBER	
DIABLO CANYON UNIT 1	0  5  0  0  0  2 7 5	B 19 - D 11 4 - 01	1040F2
The October 19, 19	39, PG&E verified that the	3/16-inch mesh scree	n was
installed on both	the upper and lower grating	assemblies of the U	nit 2
drawing and the FS/	AR Update, but not in accor	dance with the 1981	gn desian
change. JCO 89-22	was written on October 21,	1989, justifying co	ntinued
operation of Unit 2	2 with the existing screen	configuration.	
PG&E also noted the	at each containment recircu	lation sump had two	vent
pipes extending fro	om the lower grating assemb	ly which were not de	tailed
in the design draw	ing or the FSAK Update figu	re. The access hatc	n on the

On November 22 and 28, 1989, phone calls were held between PG&E, NRC Resident Inspector, NRC Region V, and NRC NRR to discuss the sump screen configuration of Unit 1 for Cycle 4 operation. During one of the phone calls, the NRC stated that if PG&E would install the 3/16-inch mesh screen on either the entire lower grating assembly, or on one-half of it, the sump configuration would not be a restart issue at the end of the Unit 1 third refueling outage. Following the November 28 phone call, PG&E decided to install a 3/16-inch mesh screen on the entire lower grating assembly.

### Event 3: Unit 1 Recirculation Sump As-Built Configuration

A design change package (DCP) C-43642 provided for as-building of the Unit 1 sump while in Mode 5 of 1R3. During the as-building, additional deficiencies were identified:

- Gaps of up to 1 inch in width between grating panels and between the grating and the concrete pedestal were noted. Tears, in excess of the 3/16-inch criterion, were identified on the upper grating screen.
- A triangular section of grating used to support the 3/16-inch mesh screen at the end of the inclined portion of the upper grating assembly was not installed.
- 3) Weakened areas of grout were observed.

1981, were not shown on Drawing 443259.

A design change was issued that identified the repairs necessary to assure that the sump is configured to meet design and functional requirements.

3025S/0076K

.

ч .

·

-

.

41				
NRC Form 386A 19 833 ~	LICENSEE EVENT	REPORT (LER) TEXT CONTIL		APPROVED ONB NO 3150-0104 EXPIRES: 8/31/86
PACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMB	IR (e) PAGE (3)
			YEAR SECUL	ER NUMBER
DIABLO CA	NYON UNIT 1	0 15 10 10 10 12 7 5	<u>                                     </u>	14 -011 01 5 OF 2
TECT (If many space is n	quired, use additional MRC Form 385A's/(117)			
	<u>Event_4: Operability</u>	of Recirculation Sump D	Ouring At-Powe	<u>r Activities</u>
¢	While reviewing the access hatch of the times for calibration LT-940/941, during po LT-940/941 are somet level indication dri cause the operabilit	sump work history for bo upper grating assembly h n of the sump level narr ower operations. The at imes required as a resul ft, differences between y status of the instrume	th units, PG& ad been opene- ow-range inst -power calibr t of observat level indicat entation to be	E noted that the d at various rumentation, ations of ions (e.g., ions) which questioned.
	I&C performed the ca TP TO-8706 requires and for pumping down procedure did not in permitted to be open paths are beneath the opening the access have inoperable during the temporary procedure Committee (PSRC).	libration using Temporar that the access hatch be the sump following the clude any limitations fo . Since both intakes of e upper grating assembly atch could have degraded is period. This concern safety evaluation or by	y Procedure ( opened for f calibration. or the time th the RHR reci , there was c l or rendered was not addr the Plant Saf	IP) TO-8706. illing the sump The temporary at the hatch is rculation flow oncern that the sump essed by the ety Review
	Also, the sump acces October 19, 1989, in interior.	s hatch in Unit 2 was op spection to gain an unob	ened briefly structed view	during the of the sump
	The TS for the conta 3.6.2.1) require the associated action st LCO is not met, TS 3 determined to be ino one hour.	inment recirculation sum sump to be operable in atement, which results i .0.3 is applicable. If perable, TS 3.0.3 requir	p (TS 3.5.2, Modes 1 throu n shutdown, e the recircula es initiating	3.5.3, and gh 4. Since no xists when this tion sump is shutdown within
В.	Inoperable structure event:	s, components, or system	s that contri	buted to the
	None.			
				,
1				
		,		

٠

.

30255/0076K

,

.

· ·

T.

\*

(9-83)		LICENSEE EVENT REPO	ORT (LER) TEXT CONTIN	UATION	U.S. NUCLEAR RI APPROVED	OMB NO 3150-01
					EXPIRES: 8/	31/96
ACILIT HAME (1)			DOCKET NUMBER (2)	LER NU	MBER (6)	PAGE (3
- -				1000 MU	MEER SOUNDE	
DIABLO CAN	LICENSEE EVENT REPORT (L LITY MAAKE [1] DIABLO CANYON UNIT 1 (C. Dates for major occurrences 1. March 9, 1981: 2. April 24, 1985: 3. May, 1985: 4. November 6, 1986 & September 1, 1987: 5. September 30, 1987: 6. October 12, 1987 & August 23, 1988: 7. September 7, 1988 & May 11, 1989: 8. October 17, 1989:	0 5 0 0 0 2 7 5	<u> 8 9 —b</u>	<u>1  4   0  1</u>	O 6 OF	
				ø,	•	
	C. Dat	es for major occur	rences.			
	1.	March 9, 1981:	Design changes the 3/16-inch lower grating similar screen the upper grat	issued to mesh screen assembly an on the out ing assembl	remove from the d install a er surface y.	of
·	2.	April 24, 1985:	Gaps in the up in excess of d identified. G requirements fo Unit 1 were ide	per grating esign requi aps in exce or the uppe entified on	assembly o rements wer ss of desig r grating a May 3, 198	of Unit 2 re in issembly c 5.
	3.	May, 1985:	The design chan also required mesh screen on (This screen wa Unit 1.)	nge to corr installatio the lower as installe	ect gaps in n of a 3/16 grating ass d on Unit 2	Unit 2 -inch embly. only, no
	4.	November 6, 1986 & September 1, 1987:	Calibrated Unit (4 hours each)	t 2 sump LT.	-941/940	
	5.	September 30, 1987	: TP TO-8706 for at-power was ap	calibration	n of LT-940 PSRC.	/941
	6.	October 12, 1987 & August 23, 1988:	Calibrated Unit 12 hours).	: 2 sump LT-	-941 (10 ho	urs and
	7.	September 7, 1988 May 11, 1989:	& Calibrated Unit	: 1 sump LT-	-940 (12 ho	urs each)
	8.	October 17, 1989:	NRC inspector i debris and miss grating assembl on Drawing 4432	nspected Ur ing wire me y that was	nit 1 sump, esh screen o incorrectly	noting on lower y shown

•

3025S/0076K

,

, .

ı

**B**.

• •

•

NRC Form 364A				U.S. NUCLEAR REGULATORY COMMISSIO
(9-83)	LICENSEE EVENT REPOR	RT (LER) TEXT CONTIN	UATION	APPROVED OM8 HD 3150-0104 ;EXPIRES: 8/31/88
FACILITY NAME (1)		DOCKET NUMBER (2)		t (6) PAGE (3)
			VEAR SS NUMBE	R WINBER
DIABLO CA	NYON UNIT 1	0 15 10 10 10 12 7 5	<u>                                     </u>	4 - 0 h 0 1 7 0 F 2 7
	0 October 10 1000			
	9. October 19, 1989:	installed on b	that 3/16-1nc oth the upper	h mesh screen was and lower grating
N.	x	assemblies in	the Unit 2 su	mp.
P	10. November 1, 1989:	Unit 2 contain	ment walkdown	by NRC inspector
		and RP technic	ian noted deb	ris inside upper
	••••••••••••••••••••••••••••••••••••••	grating assemb	Ty of the sum	<b>P</b> •
	11. November 4, 1989:	Radiography of piping downstr	Unit 2 recir eam of sump i	culation solation valve
	1	identified a s	mall nut in R	HR pump 2-2 piping.
	12. November 21, 1989:	A four-hour, n	on-emergency	report under 10 CFR
		50.72(b)(2)(i)	was made to I	NRC for debris in
	·		h•	
	13. November 27, 1989:	Design change Unit 1 sump.	issued to repa	air deficiencies of
n	Other eveters on' secondary			
5.	other systems or secondary	TUNCTIONS ATTECTED	•	
	None.			
Ε.	Method of discovery:			
	Event 1: Housekeeping/Cont	ainment Inspections		
	The NRC Resident Inspector	inspected the Unit	I cump and to	lants fs ad
	debris in the sump on Octo	ber 17, 1989.		Jencirieu
	The containment walkdowns	performed by the NR	C inspector ar	nd/or the
	System Engineer following	the October 17, 198	9, inspection	identified
	The small nut in the Unit : radiography.	2 recirculation sum	p piping was 1	dentified by
	·			
	•			,
				•
		¢		

3025S/0076K

•

.

r J

. 1

. .

.

.

	LICENSEE EVENT REP	ORT (LER) TEXT CONTINU	JATION APPROVED ONB NO 3150-0104 EXPIRES: 8/31/88
ACILITY NAME (1)		DOCKET NUMBER (2)	LER HUMBER (6) PAGE (3)
		1	YEAR SE SEQUENTIAL WHUNGER
DIABLO CA	NYON UNIT 1	0 5 0 0 0 2 5 5	<u>819</u> - b 114 - 0 h 01 8 0 F 2
	, Frank D. Comp Dealer /Car	r - • •	
	Event 2: Sump Design/Lor		
	During the October 17, 1 Resident Inspector ident as required on the upper lower grating assembly. on the lower and upper g Engineer inspected the U	989, inspection of the ified that a 3/16-inch grating assembly but Drawing 443259 Rev. 8 Irating assemblies. As Init 2 sump.	<pre>9 Unit 1 sump, the NRC 1 mesh screen was installed was not installed on the 3 showed the 3/16-inch mesh 5 a result, the System</pre>
	Event 3: Unit 1 Recircul	ation Sump As-built Co	onfiguration
	During the as-building o deficiences were observe	of the Unit 1 containme	ent recirculation sump,
	Event 4: Operability of	Recirculation Sump Dur	ing At-Power Activities
	During the PG&E sump inv sump during Unit 1 and U identified.	estigation, the issue nit 2 at-power calibra	of the operability of the tions of LT-940/941 was
F.	Operator actions:		
	Event 1: Housekeeping/Co	ntainment Inspections	•
	No operator actions were outside the upper gratin	taken for the Unit 1 g assembly or in the s	or Unit 2 debris found ump.
	For the nut in one line 2-2 was declared inopera	of the RHR recirculation of the RHR recirculation ble and TS 3.5.2 Action	on suction piping, RHR pump In Statement a. was entered.
	Event 2: Sump Design/Con	<u>trol</u>	
	None.		
	Event 3: Unit 1 Recircul	ation Sump As-built Co	nfiguration
	None.		
	Event 4: Operability of	Recirculation Sump Dur	ing At-Power Activities
	None. No operator action However, the operators of the operability/inope	ons were taken regardin n various occasions not ility of the sump narro g and following the red	ng the recirculation sump. ted in operating room logs ow range level circulation sump

•

.

ļ

ł,

٠,



		LIC	ENSEE EVEN	T REPOR	T (LER) TEX		UATION	R.U	APPROVED ( EXPIRES: 8/3	GULATORY C DMB NO 3150 1/88	;0MA )-01(
CILITY NAME (1)					DOCKET NUMBER	(2)		ER NUMBER (S	;)	PAG	E (31
DIABLO CA	NYON	UNIT			0  5   0   0	0275	8   9 -	-D 114		01.90	)F ,
G.	Sat	fety sy	ystem respo	nses:							
	Nor	ne.	, <b>.</b> .			æ					
III. <u>Cau</u>	se of	° Event	<b>.</b> .		-						
Α.	Eve	ent 1:	Housekeept	ng/Conta	inment In	spections					
	1.	Immed	liate Cause	:							
		Inade	equate insp	ection o	f the Uni	t ] and U	nit 2 co	ontainme	nt		
	•	recit	culation s	umps tol	lowing ma	intenance	activi	ties.			
	2.	Root	Cause:								
		Failu conta addit inspe mater activ	are to follo inment insp ion, the pr ction activital exclus- ities.	ow the S pections rocedure vities. ion prin	urveillan was prim should ha Managemen ciples con	ce Test Pr arily due ave been m at did not atrolled m	rocedure to pers more exp t ensure recircul	e (STP) sonnel e plicit i e that f lation s	M-45 fo rror. n defin oreign ump	r In ing	
Β.	<u>Eve</u>	<u>nt 2:</u>	Sump Desig	n/Contro	1						
	1.	Immed	iate Cause	:	ī	ı					5
		The d confi were	ifferences guration of caused by f	between f each ui incorrect	the inter nit, the c t drawing	ided sump lesign dra updates.	design, wings,	the su and the	mp FSAR U	odate	
	2.	Root	Cause:								
		a.	DCP C-43642 detail for lower grati that all dr explicitly	? issued the relo ing assen awings w specify	in March ocation of nbly to th vere updat that the	1981 did the 3/16 e upper g ed. Also FSAR need	not pro -inch m rating , the D ed an u	vide su lesh scr assembl CP did i pdate.	fficent een fron y to ens not	n the Sure	
		<b>b.</b>	Revision 4 have incorp changes, wa inadvertent the screen attributed	(March 1 porated a is not co ily left on the 1 to perso	981) to s s-built c ompleted c on the dr ower grat	ump Drawi hanges pe orrectly awing tha ing assem r and lac	ng 4432 r the F in that t indic bly. T k of do	59, which ebruary a note ated the his coul	ch shoul 1981 de was e presen Id be	d sign ce of 1+	

.

3025S/0076K

•

4

,

1

e

,

.

·

NRC Form 366A (9-83) -	LICENSEE EVENT REPOR	T (LER) TEXT CONTIN	UATION	J.S. HUCLEAR REQUL APPROVED OMB EXPIRES: \$/31/80	ATORY COMMISSION NO. 3150-0104
FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER	(6)	PAGE (3)
			YEAR SEQUENTI	AL C. MEVISION	
DIABLU CANTUN		0 5 0 0 0 2 7 5	<u>β   9   − </u> D   1  4		0 0F2 7
TEXT (If mere spece is required a	<ul> <li>c. Based on the incor 1985 Unit 2 design mesh screen on the difference in cont not reflected in t</li> <li>d. The root cause for reportability revi of the recirculati being considered a deficiencies. Bec assessment did not</li> <li>Contributing factor:</li> <li>A sufficient level of d is not provided in evic</li> </ul>	rect drawing updat change was issued lower grating asso- iguration between to the drawings or the the failure to pro- ew of the 1985 inac on sumps can be at s minor repairs in ause of this consider receive proper at detail for the conta- ting Decise Griter	e performed in to reinstall embly. This in Unit 1 and Uni FSAR Update. ovide an adequ dequacies (gap tributed to the stead of as-bu deration, the tention.	1981, the the 3/16-i resulted in t 2 that w vate os >3/16-in t deficien tilt reportabil	nch a ch) cies ity
C. Fy	FSAR updates prescribed performed until 1984 be activities being perfor license. The first ann 1984.	by the 1981 design cause of extensive med for reinstateme ual FSAR Update was	n change activ design verifi ent of the ope submitted in	ities were cation rating September	not .
1.	Immediate Cause:	•	<u>, , , , , , , , , , , , , , , , , , , </u>		
	During the as-building identified with the rec immediate cause appears design changes were not	of the sump in 1989 irculation sump gra to be that the req fully defined/impl	, deficiencie ting assembli uirements of emented.	s were es. The the design	and
2.	Root Cause:				
	Engineering did not pro construction personnel from the lower grating screen on the upper gra Drawing 443259), there drawing limiting gaps to assembly. Although the was allowed for the lowe not incorporated in the	vide adequate guida for the removal of assembly and instal ting assembly. Pri was no specific req b less than 3/16-in original design dr er grating assembly drawing when it wa	nce or commun the 3/16-inch lation of a 3 or to 1986 (R uirement on t ch for the up awing showed screen, thes s revised in	ication to mesh scree /16-inch me evision 8 c he design per grating that no gap e details w 1981.	en esh of J Vere
· 3.	Contributing Factors:			-	
	The walkdowns/inspection DCM exists with a suffice recirculation sump.	ns of the sump lack cient level of deta	ed specificity il for the co	y. Also, n itainment	0

įh.

30255/0076K

.

4

7

٩.



. . .

NRC Form <b>364</b> (9-83)	<b>A</b>		LICENSEE EVENT RE	EPORT (LER) TEXT CONTIN		8 MUCLEAR REGULATORY COMMISSIO APPROVED OMB NO 3150-0104 EXPIRES: 8/31/88
FACILITY NA	ME (1)		<u> </u>	DOCKET NUMBER (2)	LER NUMBER	(6) PAGE (3)
DIABL	O CAN	IYON_	UNIT 1	0 15 10 10 10 12 7 5		-0 h 1 1 0F 2 7
TEXT (# more a	wace is req	wheel, and	) additional MRC Farm 3864's) (17)			
	D.	Eve	nt 4: Operability o	f Recirculation Sump D	uring_At-Power_	<u>Activities</u>
		۱.	Immediate Cause:			
			TP TO-8706 did not operability/inopera calibration of LT-	include guidance rega ability of the recircu 940/941.	rding the lation sump dur	ing at-power
		2.	Root Cause:			
			A management and P instrumentation at potentially render the temporary proc was inadequate in the sump.	SRC review of calibrat -power did not identif the sump inoperable. edure for the at-power that it did not addres	ing sump level y that the acti The safety eva calibration of s the operabili	vities could luation for LT-940/941 ty status of
IV.	<u>Ana 1</u>	<u>ysis</u>	of Event			
	Back	grou	Ind			
	The to e duri area pump ensu ECCS or m the	grat ensur ng t to s ev ires and ay e core	ing/screen structure the availability he recirculation phi maintain water flow en if partially blo that debris >3/16-11 CSS which may damagenter the RCS and plue inlet.	e associated with the of the ECCS and the co ase of LOCA mitigation and net positive suct cked due to debris from nch in size will be pr ge components, plug the ug reactor coolant flow	containment sum ntainment spray . It provides ion head (NPSH) m inside the co evented from en e containment s w passages, spe	p is provided v system (CSS) an adequate to the RHR ontainment. It itering the pray nozzles, cifically in

### A. <u>Event 1: Housekeeping/Containment Inspections</u>

### Unit 1 Debris

Based on the condition of the debris, it is thought that the debris was left following the May 1989 LT-940 calibration (wipe cloth, insulation strap, & duct tape) and early 1R3 outage work (hacksaw blade). PG&E believes that the hacksaw blade was accidentally dropped into the sump at the beginning of 1R3. This conclusion is based on the limited corrosion of the blade and work over the sump that involved installing smoke detectors above the sump and cutting conduit, cable, fittings, and hangers.

PG&E concluded that because of the nature of the debris and the inherent design features of the sump, it is highly unlikely that the debris would be drawn into the RHR pump inlet or that it would impair the operation of the ECCS and CSS. The bases for this conclusion are provided below:

3025S/0076K



U.S. NUCLEAR REQULATORY COMMISSION APPROVED OMR NO. 1150-0104 EXPIRES: 8/31/88

NRC Form 304A (9-83)

FACILITY NAME (1)	DOCKET NUMBER (2)	ł.	L	R NUMBER (6)	1		•	AGE (	3)
		YEAR	ģć.	SEQUENTIAL	1.30	NUMBER		Π	
-	•				Γ				
DIABLO CANYON UNIT 1	0 5 0 0 0 2 7 5	8 9		<u>b_114</u>		<u>lo_h_</u>	112	OF	2_7_
TEXT // more space is required, use additional MRC Form 3864's/(17)									

### Likelihood of Debris Being Drawn into the Intake

The debris found in the recirculation sump would initially be blocked by the lower grating assembly. Although the rag and the tape might be conservatively assumed to be gradually drawn through the screen when recirculation flow is established, the rag would probably spread across the grating and block part of the flow path. Similarly, the duct tape would most likely align itself with the grating and create a minor flow blockage.

Because of the 5-inch elevation of the intake pipes above the floor of the sump, sunken debris must be lifted from the floor of the sump, through the grating, and into the intake. The hacksaw blade and the insulation strap are metal and would not float. The potential for transport of the blade is dependent upon the orientation of the blade with respect to the direction of flow. When the large cross-sectional area of the blade is perpendicular to the flow direction, it has the highest potential for transport; this perpendicular orientation would not allow for passage through the grating. The blade would need to be rotated 90 degrees so that it would pass endwise through the grating. In this orientaton, the drag forces of the blade would be substantially reduced because of the reduced cross-sectional area presented to the flow direction. This most likely would result in the blade dropping back to the sump floor.

### Likelihood of RHR Heat\_Exchanger\_Blockage\_Being\_Significant

If floating debris were drawn into the system and passed through the RHR pumps, it could align itself in a manner to spread out on the RHR heat exchanger tube sheet. Because of the high flow velocities through the tube sheet, it is much more likely that a substantial volume of the rag would be sucked into tubes over a small area of the heat exchanger inlet tube sheet. In addition, the wipe cloth is too porous and too weak structurally to significantly block flow.

Tests were performed at DCPP to determine the nature of flow resistance and the tear strength of wipe cloths similar to the one found in the containment recirculation sump. With either a single or double layer of cloth spread out in a flat laboratory funnel, the cloth passed water at a rate of one liter in seven seconds with a differential pressure of 15 psi.

The tear strength test was performed with a plastic sheet behind the cloth to totally block flow so that a differential pressure could be applied to the surface of the cloth. Tests were performed on various layers of the cloth to determine the burst strength as tabulated below.

3025S/0076K

ſ

.

.

2

\$

.

、

	)													
LICENSEE EV	VENT REPOR	T (LER) T	EXT CON	TINU	IATIO	N		U.	S. HUC AP EX	ILEAR REP PROVED ( PIRES: 8/J	GULAT DMB N(	ORY C	20MM	4
ACILITY NAME (1)		DOCKET NUM	BER (2)			LEI	RNU	MEER	(8)			PAG	JE (3)	
				1	VEAR		3801	UNITA	<u>** 🖓 🖉</u>	NUMBER	1			
DIABLO CANYON UNIT 1		0  5   0	10   0   2 7	5	R 19		h	114	·  _	0 h_	1,1	30		12_
CT III mare space is required, use additional NRC Form 386A's)	/1173		<u> </u>		<u>×</u>	·	<b>-</b>	<u></u>	<u> </u>					
Number of	Lavers	1	<u>Burst St</u>	<u>:reng</u>	<u>ith (</u> j	<u>psi</u>	<u>d</u> )			r				
plastic ba l	cking only		1' 4	0										
2	) - -		8	2										
· 4	,		15	0										
The expected pre recirculation ph shut-off conditi- to be completely restrict the flo would tear the c entire surface o maintained. The of cloth at the through the clot decrease the str were to form in significant effe <u>Westinghouse Eva</u>	ssure drop ase is 27 p ons. The t spread out w, but this loth. If t f the tube tests demo same rate a h would res ength and t more of a s ct on the E <u>luation of</u>	across a isi at fu ests den across would n the cloth sheet; ( instrated is a sing cult in n ear res pherica CCS flow	an RHR h ull flow monstrate result in h were for consequer d that w gle layer wear due istance ( l shape, w rate.	eat of and e that e sho n a oldeo ntly ater r. to a of th it n s <u>of</u>	excha appr at if eet i large d, it , som flow It is abras he cl woulc <u>Debr</u>	inge oxf it v pi v ev iore iore i nc oti i nc oti i nc	er ima he wou res oul ECC thr s h. ot	dur itel wip ild sur d n S f oug cte thic hav	ing y 17 e cl temp e di ot ( low h ti d ti h w( th( e a tion	the 75 ps Jorar rop t vover woul wo la nat f Duld e clo	i at were ily hat the yers low th	1 2 2 2 2		-
A conservative and debris was drawn that the debris pump. The RHR pr design functions	nalysis was into the R would pass ump would b after pass	perform HR pump through e capabl age of 1	ned by We intake. the RHR le of per the debri	estir The pump rform is.	nghou e eva p wit ming	Ise Ilua :h r all	as iti no l o	sum on ( dam f i	ing dete age ts r	that rmin to t requi	the ed he red	÷		
Only fragments of exchanger would n cause binding or passed through th balancing drum bu cause binding dun event that the Si recirculation con available from th	f the debri reach the c failure of he charging ushings cou ring subseq I pump did nfiguration he RHR syst	s small harging a runni and SI ld poten uent res not rest , flow t em.	enough t and SI p ing pump. pumps, s itially ( start of tart foll to the R(	to pa pumps . Hc scori cause the lowir CS hc	iss t s; th oweve ing o e gal pump ng al ot le	hro e f r, if t lin s. ign gs	)Ug Fra as the Ig, I Ime WO	h th gmer the wea wh n th n the n the the n the n the the n the n the the n the n the n the n the n the n the n the n the the n the n the n the n the the the the n the n the n the n the n the n the n the the the the n the the n the n the the n the the the the the the n the n the n the n the n the n the n	he R nts e de ar r ich he u to t sti	HR he would bris ings could nlike he he ll be	eat no and ely ot l e	it I eg		
Westinghouse cons would spread out heat exchanger. is too porous and impact would be m adequate heat exc clean heat exchar	servatively and cause ( However, a: d too weak : ninimized wi changer flor nger.	assumed consider s discus structur hen the w and re	l in the able or sed abov ally to operator align th	anal tota /e, i sign rs id ne RH	ysis 11 fl if sp ific: ienti iR to	th ow rea ant fy pr	iat bli id ;1y th ov	the ocka out, blc e lc ide	y wi 1ge , th Dck Dss flo	pe cl of or e mat flow. of w to	oth ie R ceri . T the	HR al he		
The potential for injection lines, 3025S/0076K	r valve bloc it is unlii	ckage al kely tha	so exist t all fl	ed. ow w	Due rould	to ha	ti .ve	he n bee	iumb in b	er of locke	:d.			

Ň

.

2 1

٩Ę.

н

۵.

.

,

ν

,

•

(9-83)	LICENSEE EVENT	F REPORT	(LI	ER)	TE	EXT	C	10	ITI	NU	A	10	N			AP EX	PROVED O PIRES: 8/31	M8 NC	3150	)010	4	
FACILITY NAME (1)			OCK	ET N	JME	ER C	2)						L	R N	IUMBER (	1			PAG	E (3)	ندون <u>م</u>	-
	`										٧	AR	83	52	QUENTIAL NUMBER	120	NUMBER		Т	Т		
DIABLO CANYON U	ι τικ	1	0  I	5   0		0	0	2	7 <b>£</b>	5	8	9		0	114		.011	11	40	)F	2 F	,

Westinghouse assumed that sufficient flow would remain to preclude core boil-off. Certain gate valves might fail to totally isolate flow following transfer to hot leg recirculation and might create SI and charging pump runout problems.

Debris that reaches the reactor vessel would be securely trapped either below the lower core plate or in the fuel assembly grid straps. The amount of debris trapped would not cause any significant core flow blockage.

### <u>Conclusions</u>

For the reasons stated above, PG&E concluded it is highly unlikely that the debris would be drawn into the RHR pump inlet or that it would impair the operation of the ECCS and CSS. Also, PG&E concluded that there is not a significant risk of flow blockage or inability to provide flow due to failure of an SI pump to restart.

### Unit 2 Debris

Debris was found outside the upper and lower grating assemblies of the Unit 2 sump. In both cases, at least one screen assembly exists that would strain any debris greater than 3/16-inch. The design concept of the combined effect of the screen assemblies was based on the consideration that items that are small enough to pass through the screens would be unlikely to impair the operation of the pumps. Since both screen assemblies contain a 3/16-inch mesh, the screens would trap the larger items of debris that have been identified. PG&E concluded that smaller items that have been identified that could pass through the screen(s) would not impair operation of the ECCS and CSS.

### Nut found in Recirculation Piping of Unit 2 Sump

A safety evaluation was written justifying continued operation (JCO 89-25) of Unit 2 until the nut that was identified by radiography could be removed during the Unit 2 third refueling outage. During the recirculation mode, the nut would pass through the RHR pump without causing damage, and the pump would be capable of restarting after passage of the nut. Because of its size, the nut would not travel through the heat exchanger tube sheet and would be prevented from any further travel. Therefore, the nut would not affect the performance or the operability of the SI and centrifugal charging pumps.

3025S/0076K

۵ 

ş \_\_\_\_\_\_

.

INAC Form 384A	T REPORT (LER) TEXT CONTIN	U.S. MUCLEAR RED UATION APPROVED OF EXPIRES 0/31/	ULATORY COMMISSION M8 NO 3150-0104 /86
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
		YEAR SEQUENTIAL CORVEION	
DIABLO CANYON UNIT 1	0 5 0 0 2 7 5	8   9 -0   1   4 - 0   1	1 5 <sup>OF</sup> 2 7

TEXT (If more space is required, use additional MRC Form SBEA's) (17)

Based on JCO 89-25, continued operation of Unit 2 with the debris (nut) in one of the containment recirculation sump pipes does not create an unreviewed safety question and will not adversely affect public health and safety.

### B. Event 2: Sump Design/Control

In 1974, when the containment recirculation sump concrete and imbedded pipe were constructed and the design and construction of the upper screen and grating were essentially complete, Regulatory Guide (RG) 1.82 was first issued. The sump design, although not required to meet this RG, was evaluated at that time with the conclusion that the sump design met the intent of the guide.

In 1980, a hydraulic study of the sump design was completed by Western Canada Laboratories, Ltd. to address PG&E and NRC concerns regarding the sump design. This study assessed the potential for vortex formation and/or air entrainment at the 14-inch diameter RHR suction lines. Design modifications in 1981 were made to implement the recommendations of the study. Specifically, the 3/16-inch mesh screen covering the lower grating assembly was removed; 3/16-inch mesh screen was installed over the entire upper grating assembly; and, although removal was suggested by the study recommendations, the 6-inch vent pipes from the lower grating assembly were not removed from the sump.

In the period of 1983-1985, the sump was further evaluated for the potential of blockage due to unqualified paint (chips, flakes, etc.) being detached from containment interior surfaces. It was shown that adequate flow area existed through the inclined portion of the upper grating assembly to meet system hydraulic requirements.

A review of sump design/control issues and their safety significance is provided below.

1) There was no 3/16-inch mesh screen installed over the lower grating assembly at the bottom of the sump for Unit 1 Cycle 1 through Cycle 3. In removing the 3/16-inch mesh screen from the lower grating assembly per the 1981 design change, the degree of redundancy provided by the steel divider plate, as described in the FSAR, that would prevent a hole in the 3/16-inch mesh screen over one RHR pump suction pipe from influencing the straining of debris >3/16-inch for the other RHR pump intake, was lost.

A hole in the upper grating assembly is not reviewed as a necessary, postulated, credible event, however, because no mechanistic cause for the passive failure of the screen has been postulated. A review of high energy line break (HELB) results in the vicinity of the sump has identified no pipe whip or jet impingement effects that could

3025S/0076K



.

HRC Form 384A (9.83) LICENSEE EVEN	IT REPORT (LER) TEXT CONTINU	US. NUCLEAR REGI UATION APPROVED ON EXPIRES: 8/31/	ULATORY COMMISSION AS NO 3150-0104 SS
FACILITY NAME (1)	DOCKET NUMBER (2)	LER HUMBER (6)	PAGE (3)
		YEAR SEQUENTIAL MEVENN	
DIABLO CANYON_UNIT_1	0 15 10 10 10 12 17 4	<u>819</u> -0114 -01	
TEXT (If more space is required, use additional MRC Form SBEA's) (17)			

compromise the integrity of the 3/16-inch mesh screen. None of the postulated debris assumed collected on the screen (i.e., insulation and paint) is capable of causing a screen structural failure. Containment housekeeping practices preclude large (floatable) materials from being left in the containment during operation that could find their way to the sump and damage the screen. Damage to the sump screen is considered unlikely due to the low approach velocity of the debris and the high strength of the wire mesh.

Removal of the inner screen and the issue of the "effectiveness" of the divider plate is seen as a positive and conservative change to improve plant safety and the overall effectiveness of the RHR system. In the original approved, design (FSAR and design drawings prior to 1981), the inner 3/16-inch mesh screen was the only screen and had a surface area of only approxiamtely 65 square feet per RHR suction pipe. This lower location was more likely to collect debris, being at the sump low point. Removal of the 3/16-inch mesh screen from the lower grating assembly and placing the screen over the entire upper grating structure increased the surface area of screen and raised the screen to a higher elevation less subject to plugging by debris. The screen area was now approximately 375 square feet. Even at minimum water level in containment following a LOCA, the surface area of screen was >65 square feet. This reduced potential problems with plugging and vortexing in the RHR pump suction and minimized the opportunity for a single failure of the RHR system due to plugging or vortexing in the containment recirculation mode.

2) In 1985, a 3/16-inch mesh screen was reinstalled over the lower grating assembly for Unit 2. Also, a 3/16-inch mesh screen was installed over the lower grating assembly in November 1989 for Unit 1 Cycle 4. The reinstallation of the 3/16-inch mesh over the lower grating assemblies is not in accordance with the 1981 design changes, but will not result in screen blockage or vortex formation because of the 3/16-inch wire mesh screen on the upper grating assembly.

RG 1.82 requires only one coarse screen (grating or trash rack) plus one fine screen separated from the coarse screen. The current design for DCPP has six layers of coarse and fine screen for the majority of flow areas (3/16-inch screen, grating, 1/2 inch screen, grating, 3/16-inch screen on lower grating assembly, and grating). Even without the lower 3/16-inch mesh screen, there are five layers for most of the flow areas.

3025S/0076K

### ( .

**、** 

· ·

NAC FOR SHA	NSEE EVENT REPORT (LER) TEXT CONTINU	US. HUCLEAR REGINATION APPROVED OF EXPIRES: 8/31/	JLATORY COMMISSIO 48 NO 3160-0104 /88
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
		YEAR SEQUENTIAL MEVEION	
DTABLO CANYON UNTE 1	0 15 10 10 10 12 7 5		1 7 OF 2
DIABLO CANYON UNIT 1 TEXT (# mare space is required, use additional Mil	0 5 0 0 2 7 5		11 71-

In addition, hydraulic and seismic analyses verified that the integrity of the upper grating assembly (including the 3/16-inch mesh) would be maintained. Pipe break and missile analysis also verified that the upper grating assembly is not a target when sump function is required. Therefore, the function of the sump to provide water to the ECCS and the CSS would not be affected.

- 3) There are 6-inch diameter vent pipes installed and connected to the lower grating assembly. The 1980 hydraulic study indicated that these vent pipes were no longer needed, since plugging of the unscreened lower grating assembly is no longer possible. Conversely, the presence of the vent pipes is not detrimental for the same reason: no pressure difference can exist across the (unscreened) grating sufficient to draw air into the suction lines via the vent pipes. Therefore, the vent pipes can remain installed without detrimental effect.
- 4) Prior to 1981, the sump design was such that recirculation flow would pass first through grating (acting as a trashrack), then a 1/2-inch mesh screen, and then the 3/16-inch mesh screen. Since 1981, the 3/16-inch mesh screen has been located on the outside of the upper grating assembly. Although the size-graded order of straining was not retained, the same elements were retained, including double screens over the inclined section of the upper grating assembly.

The existing design has been evaluated for both insulation and paint materials blocking the screen area. Adequate margins exist for both screen area and strength to accommodate these conditions. In addition, failure of the outer 3/16-inch mesh screen is not considered a part of the sump design basis as discussed in 1) above.

5) A hinged access hatch, of approximately 32 inches by 41 inches, is installed on the horizontal portion of the upper grating assembly. Also, two access hatches, one over each RHR intake, are installed on the lower grating assembly. The maximum post-LOCA water level can be up to 5 inches above the top surface of the sump. The hatch is normally kept closed and is covered with 3/16-inch mesh screen, as is the adjacent, horizontal grating. Also, the two access hatches on the lower grating assembly are normally kept closed.

, ,

٩

•

¥ •

· · · · · · · · · · · · · · · · · · ·				-	UII ATORY COMMITTION
NRC Form 366A (9-83)	LICENSEE EVEN	NT REPORT (LER) TEXT CONTINU	JATION	APPROVED C	DMB NO 3150-0104
FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER	(8)	PAGE (3)
			YEAR SEQUENTI		
DIABLO CANYON U	UNIT 1	0 15 10 10 10 12 17 5	8 19 - D 11 14		1 8 OF 2 7
TEXT (If many space & remaind, use	additional MRC Form 385A's/ (17)				

6) Following the 1981 modifications made to both units, the sump drawing, piping schematic, and FSAR Update were not revised to describe the installed configuration. However, these documentation errors do not adversely effect safety since this configuration information is not used in the basis or assumptions for any analyzed accidents or malfunctions:

The above discussions confirm the acceptability of the recirculation sump design and modification history to support LOCA accident mitigation and ECCS operability. No design modifications have been made that would compromise the ability of the sump to perform its functional requirements. The DCPP sump design is considered conservative based on its location in the containment annulus area away from a postulated pipe rupture accident, its size, its multiple layers of screen/grating, and its configuration of baffles, curbs, floor grating, and structural design.

### C. <u>Event 3: Unit 1 Recirculation Sump As-built Configuration</u>

A design change provided for as-building of the Unit 1 containment recirculation sump while in Mode 5 of 1R3. During this effort, additional deficiencies were identified. The deficiencies were previously identified for Event 3 of Section II.A of this LER.

1) The DCPP ECCS has been designed and analyzed to be acceptable for operation while sustaining the effects of blockage of the sump screens by debris larger than 3/16-inch and ingestion of debris smaller than 3/16-inch in amounts that are expected to occur during design basis accidents. A recent walkdown verification of the Unit 1 sump as-built configuration identified a 1-inch vertical gap on the upper grating assembly between screen sections and other gaps around a concrete column in the inclined section of the upper grating assembly. These gaps were not in conformance with the issued design; sump repair work during 1R3 eliminated these gaps.

Evaluation of the possible impact of these gaps on ECCS operability during a design basis accident concludes that there is no significant risk of system damage due to debris larger than 3/16-inch passing through the gap. The physical arrangement of the DCPP containment structures make it highly unlikely that debris would enter the sump if a LOCA had occurred with the sump defects that existed during the first three cycles of Unit 1 operation. The reasons for this are:

3025S/0076K

# ٢

÷

×

NRC Form 366A (9-83)	LICENSEE EVEN	T REPORT (LER) TEXT CONT		. NUCLEAR REGULATORY COMMISSION APPROVED OME NO 3150-0104 EXPIRES: \$/31/88
FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER I	)) PAGE (3)
			YEAR SEQUENTIAL NUMBER	NUMBER
DIABLO CANYO	N UNIT 1	0 15 10 0 0 2 7	<b>5</b> 8 19 - b 11 14	
IDAT (If more space is required	L use additional NRC Form SOLA's) (17)			
	The location of minimizing the is located in t and is well sep	the recirculation sump amount of debris that co he annulus area of conta arated from the localize	is a major factor uld reach the sur inment outside th d effects of a po	r in mp. The sump ne crane wall ostulated LOCA
	inside containm and wire mesh 1 minimize the ne	ent. The crane wall, co ocked doors inhibit debr ed for sump redundancy.	ncrete shielding is from reaching	, labyrinths, the sump and
	Specific consid	erations are as follows:		
	Although slight jet impingement debris will go inspections and transported to break LOCA. Th	, there is some risk tha forces and be transport undetected by personnel be left inside containm the sump under the effec is debris can be categor	t debris could be ed to the sump, o performing housel ent where it cou ts of a design ba ized as follows:	e detached by or that some Keeping Id be asis large
	Small debr	is that will pass throug	h the 3/16-inch m	mesh screens.
	Larger deb	ris that may pass throug	h the 1-inch gap	•
	Debris tha	t will not pass through	the 1-inch gap.	
	Because of the the possibility very small part mass ratio, or the curb inside particles from the upper grati the sump.	low flow velocities on t of small debris enterin icles, debris that has a debris that floats. If the upper screen will i entering the sump pit, w ng assembly will inhibit	he approach path g the sump exist large cross sec the debris reach nhibit higher de hile the baffle y floating debris	s to the sump, s only for tional area to es the sump, nsity wall inside from entering
	' Numerous low fl suction pipe wi debris into the at the floor le the edge of the the lower grati suction pipe ab	ow zones and blockages o 11 further inhibit the i ECCS. Such blockages i vel of the upper grating sump pit, the grating o ng assembly, and the 5-i ove the sump floor.	n the approach to ntroduction of m nclude the struct assembly, the 6- n the floor of th nch extension of	o the RHR iscellaneous tural member -inch curb at ne sump inside the RHR
-,	Large debris in performance of a low probabili low flow veloci is likely to be debris will onl blockage. The design has cons	the sump area is not li housekeeping inspections ty of it being transport ties approaching the sum transported to the sump y pose some increased ri existing analyses show t iderable margin for bloc	kely to be overlo . If it does exi ed to the sump du p. The only larg is floating debu sk of adding to u hat the sump exis kage.	ooked during ist, there is ue to the very ge debris that ris. Such upper screen sting screen
30255/00768	K			

•

ţ.

NRC FORM 206A (2-83)

ء' ,

ş

.

### 

·

, ,

·

. :

•

٠

r I

LICENSEE	/ENT REPORT (LER) TEXT CONTI	U.S. NUCLEAR REGULATORY COMMISSION				
		EXPIRES: 8/31/88				
ACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) PAGE (3)				
<i>,</i>		YEAR SE NUMBER				
DIABLO CANYON UNIT 1	0  5   0   0   2 7 4	B   9 - D   1   4 - 0 h   2   0 0F 2				
DXT III mare space is required, use additional MRC Form 386A	1177					
Potential s a result of conventiona	urces of debris that could b an accident are limited to r (calcium silicate) insulati	pe transported to the sump as reflective insulation, on, and unqualified paint.				
Paint Evaluation						
The DCPP paint unqualified pai recirculation s unqualified pai RCS does not de heat removal. recirculation s	valuation performed by Westi t inside containment would b mp. This evaluation conclud t debris into the ECCS and s rade the ECCS's ability to p he presence of the defects i mp does not alter that concl	nghouse assumed all be transported into the led that ingestion of all subsequent transport into the provide long term core decay dentified on the Unit 1 usion.				
Because the RHR chip expected de Due to the low through a tube through the tube heat exchanger.	heat exchanger tube ID is O. White white the seat exchang trength of the paint, flakes buld most likely break into s when exposed to the differ	527 inch, the largest paint er is less than this size. large enough to block flow smaller chips and pass ential pressure across the				
Because a large spray nozzles ( the spray nozzl cause no more th nozzles.	differential pressure is exp 30 psi), chips that pass thr 5 when performing a recircul an a momentary blockage of t	ected across the containment ough the heat exchangers to ation spray are expected to he 3/8-inch diameter spray				
The 1985 paint e centrifugal chan seals, impeller pass through the entering these o consequently no expected to caus hydraulic perfor wear resistance	valuation considered the pot ing and SI pumps close tole to casing wear ring, etc.). as-found gaps of the screen ose tolerance gaps and the legradation is expected. The significant wear of component ance (wear rings, impellers of the component materials (r	ential for damage of rance parts (such as the The larger chips that could will not be capable of paint is non-abrasive; e soft paint material is not ents crucial to pump , etc.) due to the excellent martensitic stainless steel).				
The 1985 paint e transport of pai the reactor are to the low flow the chips will n recirculation, a	aluation also considered eff t debris; it concluded that xpected to settle to the bol elocity. After settling to t circulate further until in which time flow velocities	fects on the core due to the most of the chips that reach ttom of the lower plenum due the bottom of the plenum, nitiation of hot leg may re-entrain small chips				

3025S/0076K

•



<u>N UNIT 1</u> <u>Insulation Evalu</u> The effect of in valuated and ac supplement No. 1 is described ear reclude much of ump. Because o laterial, it is t would pass th xpected from ri urther reduce t f passing throu	ation sulation de cepted in 1 3. lier, the of the insula of the size unlikely the rough a 1-1 pping the f	ebris on s Diablo Can containmen ation debr and shape hat, even inch gap.	ump perfor yon Safety t arrangen is followi of the in if it were	Mance was / Evaluation ient and sping a LOCA isulation ji formation	previously n Report ecial featur from reachin acketing ed to the su	res ng the
ON UNIT 1 Insulation Evalu the effect of in valuated and ac supplement No. 1 is described ear reclude much of ump. Because o laterial, it is t would pass th xpected from ri urther reduce t f passing throu	ation sulation de cepted in l 3. the insula of the size unlikely th rough a 1-1 pping the f	ebris on s Diablo Can containmen ation debr and shape hat, even inch gap.	ump perfor yon Safety t arrangen is followi of the in if it were	mance was / Evaluation ing a LOCA sulation ja formation	previously n Report ecial featur from reachin acketing ed to the su	res ng the
<u>ON UNIT 1</u> <u>Construction American</u> <u>insulation Evalu</u> The effect of in evaluated and ac Supplement No. 1 is described ear preclude much of ump. Because o laterial, it is t would pass th xpected from ri urther reduce t f passing throu	nation sulation do cepted in 1 3. lier, the of the insula of the size unlikely th rough a 1-1 pping the f	ebris on s Diablo Can containmen ation debr and shape hat, even inch gap.	ump perfor yon Safety t arrangen is followi of the in if it were Severe de	mance was / Evaluation ient and sping a LOCA isulation ji formation	previously n Report ecial featur from reachir acketing ed to the su	res ng the
insulation Evalu the effect of in evaluated and ac supplement No. 1 is described ear reclude much of ump. Because o laterial, it is t would pass th xpected from ri urther reduce t f passing throu	ation sulation de cepted in l 3. The insula of the size unlikely th rough a 1-1 pping the f	ebris on s Diablo Can containmen ation debr and shape nat, even inch gap.	ump perfor yon Safety t arrangen is followi of the in if it were Severe de	rmance was / Evaluation lent and spin ing a LOCA isulation ja formation	previously n Report ecial featur from reachir acketing ed to the su	res ng the Jmp,
insulation Evalu the effect of in evaluated and ac supplement No. 1 is described ear preclude much of ump. Because o laterial, it is t would pass th expected from ri urther reduce t f passing throu	ation sulation de cepted in l 3. the insula of the size unlikely th rough a 1-1 pping the f	ebris on s Diablo Can containmen ation debr and shape hat, even inch gap.	ump perfor yon Safety t arrangem is followi of the in if it were Severe de	mance was Evaluatio Ing a LOCA Sulation ja formation	previously n Report ecial featur from reachir acketing ed to the su	res ng the Jmp,
The effect of in evaluated and ac supplement No. 1 is described ear reclude much of ump. Because o laterial, it is t would pass th expected from ri urther reduce t f passing throu	sulation de cepted in 1 3. the insula of the size unlikely the rough a 1-1 pping the f	ebris on s Diablo Can containmen ation debr and shape hat, even inch gap.	ump perfon yon Safety t arrangen is followi of the in if it were Severe de	mance was / Evaluatio nent and sping a LOCA isulation ja formation	previously n Report ecial featur from reachir acketing ed to the su	res ng the Jmp,
As described ear oreclude much of ump. Because o material, it is t would pass th expected from ri urther reduce t f passing throu	lier, the of the insula of the size unlikely th rough a 1-1 pping the f	containmen ation debr and shape hat, even inch gap.	t arrangen is followi of the in if it were Severe de	nent and sp ing a LOCA isulation j transport	ecial featur from reachir acketing ed to the su	res ng the
ettie out in th	he likeliho gh the gap. e low flow	od of a ja Stainle: regions o	off with acket geom ss-steel i n any appr	an impingin hetry that in nsulation i loach path	would be cap bands would to the sump.	i be Id Jable
ests were perfo alcium silicate	rmed at DCF insulation	PP to deter n would flo	rmine the pat. The	time that v data are ta	various size abulated bel	es of low:
<u>Sample Size</u>	(inches)		<u>Float T</u>	<u>ime_(minut</u>	<u>es)</u>	
1.5 x 1.5 x 2 x 2 x 2 2.5 x 2.5 x 2.4 x 2.5 x Chips < .5 Powder	1.5 2.5 4		<1 2 4 6 <0 Imme	.5 .25 diate		
) An evaluation of the inclin that demonst provided by	n of the mi ned portion rated that the grating	ssing tria of the up the 3/16-1 g, satisfie	Ingular se per grati inch mesh ed the des	ction of gr ng assembly screen, wit ign basis.	rating at th / was perfor thout the su	ne end med Ipport
Weakened area wall. No gro piece approxishowed signs 1/4-inch bent the wall. The protecting the of the wall. would exist is protected on	as of grout out was dis imately 7 i of pitting t plate sup he plate be he grout fr It is ext to dislodge three side	were obse placed; th nches long r The det ported on onds down c om the dir remely unl the loose	rved at t west en while t ail at th the grout ver the n ect flow ikely that piece of	he top of t d of the wa he east end is location and bolted orth edge c of water go t sufficien grout sinc	the north ba all had a lo i of the wal i shows a i to the top of the wall, oing over th it turbulenc ce it is	ffle ose l of thus e top e
	ests were perfo alcium silicate <u>Sample_Size</u> 1.5 x 1.5 x 2 x 2 x 2 2.5 x 2.5 x 2.4 x 2.5 x Chips < .5 Powder An evaluation of the inclinit that demonst provided by Weakened area wall. No gropiece approxi- showed signs 1/4-inch ben- the wall. The protecting the solution of the wall. The protecting the solution protected on	<ul> <li>Sample Size (inches)</li> <li>1.5 x 1.5 x 1.5</li> <li>2 x 2 x 2</li> <li>2.5 x 2.5 x 2.5</li> <li>2.4 x 2.5 x 4</li> <li>Chips &lt; .5</li> <li>Powder</li> <li>An evaluation of the mi of the inclined portion that demonstrated that provided by the grating</li> <li>Weakened areas of grout wall. No grout was dis piece approximately 7 i showed signs of pitting 1/4-inch bent plate sup the wall. The plate be protecting the grout fr of the wall. It is ext would exist to dislodge protected on three side</li> </ul>	<pre>ests were performed at DCPP to deter alcium silicate insulation would flo <u>Sample Size (inches)</u> 1.5 x 1.5 x 1.5 2 x 2 x 2 2.5 x 2.5 x 2.5 2.4 x 2.5 x 4 Chips &lt; .5 Powder An evaluation of the missing tria of the inclined portion of the up that demonstrated that the 3/16-1 provided by the grating, satisfie Weakened areas of grout were obse wall. No grout was displaced; th piece approximately 7 inches long showed signs of pitting. The det 1/4-inch bent plate supported on the wall. The plate bends down of protecting the grout from the dir of the wall. It is extremely unl would exist to dislodge the loose protected on three sides.</pre>	ests were performed at DCPP to determine the alcium silicate insulation would float. The <u>Sample Size (inches)</u> Float T 1.5 x 1.5 x 1.5 (1 2 x 2 x 2 2.5 x 2.5 x 2.5 (2 2.5 x 2.5 x 2.5 (2 Chips < .5 (0) Powder Imme An evaluation of the missing triangular se of the inclined portion of the upper grati that demonstrated that the 3/16-inch mesh provided by the grating, satisfied the des Weakened areas of grout were observed at t wall. No grout was displaced; the west en piece approximately 7 inches long, while t showed signs of pitting. The detail at th 1/4-inch bent plate supported on the grout the wall. The plate bends down over the m protecting the grout from the direct flow of of the wall. It is extremely unlikely tha would exist to dislodge the loose piece of protected on three sides.	ests were performed at DCPP to determine the time that falcium silicate insulation would float. The data are to sample Size (inches)Float Time (minute1.5 x 1.5 x 1.5c12 x 2 x 222.5 x 2.5 x 2.54.52.4 x 2.5 x 46Chips < .5	Sets were performed at DCPP to determine the time that various size         alcium silicate insulation would float. The data are tabulated below         Sample Size (inches)       Float Time (minutes)         1.5 x 1.5 x 1.5       (1         2 x 2 x 2       2         2.5 x 2.5 x 2.5       4.5         2.4 x 2.5 x 4       6         Chips < .5

.

.

96

\*



: . (

IRC Form 204A			U.S. MUCLEAR RE	GULATORY COMMISSION
8-83)	LICENSEE EVENT REPOR	T (LER) TEXT CONTINU	ATION APPROVED EXPIRES: \$7	OMB NO 3150-0104 31/88
CILITY NAME III		DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
	-		YEAR SE HUMBER WITHUNSE	
DIABLO CA	IYON UNIT 1	0 15 10 0 0 2 7 5	819-b114-0h	2 2 0 5 2 7
DCT <i>(If many space is re</i>	Based on the above, PG&E has system would have been capa in the event of a design ba recirculation. Thus, the h adversely affected. Event 4: Operability of Rec	as a high degree of ble of performing i sis accident requir health and safety of circulation Sump Dur	confidence that the F ts intended safety for ing containment the public was not ing At-Power Activit	RHR unction ies
	A review of the sump work h hatch of the upper grating calibration of LT-940/941 c of the RHR recirculation fl assembly, there is a concer the containment recirculation As discussed for Event 3, f sump in the event a LOCA wo	istory of both unit assembly has been o luring at-power oper ow paths are beneat on that opening the on sump inoperable it highly unlikely t	s noted that the according pened at various time ations. Since both the upper grating access hatch could re during the test. that debris would enter access batch is open	ess es for intakes ender er the
·	An analysis was performed to the unavailability of conta operation. The analysis co on the sump was open, the operator are at their high-high water containment water level bein at the start of the recircul unscreened area of the oper inoperable. In reality, the tank levels, and therefore, the top of the grating. In negative effects of a plant by entry into a TS action s	by PG&E that evaluat inment sump recircu- onservatively assume condensate and refue er levels. This wou ing above the top of lation mode followi hatch, the sump wa nese water levels wo the containment wa addition, the assu shutdown and resta statement.	ed the risk signification during power ed that whenever the leader storage tail ing water storage tail ing water storage tail ing could in the the upper grating as ng LOCA. Because of as then assumed to be ould be more near norm ter level may not examptions do not consider art for repairs if recommended.	ance of hatch anks ssembly the mal ceed der the quired
×	The measure of risk associa the annual core damage free are based on the Diablo Car part of the Long Term Seism containment sump has been e cycle (i.e., one hour every linearly extrapolated for m unavailability.	ated with the open s quency for DCPP Unit yon probabilistic r hic Program. The un evaluated for a one- v 18 months). The r hultiple hours of co	ump hatch is the char 1. The model and re- isk assessment perfor- availability of the hour period during the esults, however, may ontainment sump	nge in esults rmed as he fuel be

L

۲

۴.

,

3025S/0076K

4

ş

## \* . •

•

?

	_													_	_
NRC Form 204A (9-83)		ICENSEE EVENT	REPORT		TEYT	CONT	INI	ΔΤΙΟ			U.S. NUCL	EAR REG	ULATORY	COMM/1	\$\$10N
				1 44 14 I' 1 /							EXP	RES: 8/31	/88		
FACILITY NAME (1)			00	CKET M	UMBER (2)				LER A	UMBEI	(6)		PA	38 (3)	
								YEAR	× "	NUMBE	<u> </u>	NUMSEA			
DIABLO CAN	IYON	UNIT 1	0	<b>15   C</b>	0 0 0	12 7	5	B   9	_b	11	4	on	2 3	OF2	7
TEXT If mare space is rea		additional MRC Form 306A's) (17)													
	The for sei inc for ass rem ris	increase in the au each hour the sum perspective, the to smic and non-seism rease in the total each hour that the umptions based upon the location of the k would be reduced	nnual co p is ass otal con ic event core da e sump f n the ph e sump, by orde	ore da sumed re da ts is amage is no is no is no and ers o	lamage i to b amage i 2.0 e freq ot ava cal co the n of mag	freq e una frequ E-4 p uency ilabl nfigu ature nituc	uen vai venc vis e. vrat vof le.	cy i labl y fo year app Uti ion o the	s app e. T r Uni r Th roxim lizin of co pote	orox To p it 1 nere nate ng m onta enti	imate ut th due fore, ly 0. ore n inmer al de	is va to bo the 05 po realis t, the bris	.2 E-8 alue oth ercent stic he , the		
	Thu not and	s, opening of the s compromise the op safety of the pub	access h erabilit lic were	hatch ty of e not	n in o F the t adve	f the recir rsely	e up cul / af	per atio fect	grati n sum ed by	ing np, y th	assen and 1 is ev	hbly ( he ho vent.	did ealth		
V. <u>Corr</u>	ecti	<u>ve Actions</u>													
Α.	Imm	ediate Corrective	Actions	:								1			
	<u>Eve</u>	nt 1: Housekeeping	/Contair	nment	<u>t Insp</u>	ectic	<u>ons</u>								
	1.	The debris found removed.	in the l	Jnit	l con	tainn	nent	rec	ircul	lati	on si	imp wa	as		
	2.	A walkdown of the performed to ensu outside the upper	Unit 2 re that grating	cont ther g ass	tainme re was sembly	nt ar no l was	eas loos rem	out: e dei oved	side bris.	the . T	crar he de	ie wa ebris	ll was found		
×	3.	PG&E inspected the probe inspection section, and appre of both A and B se	e Unit 1 includec oximate1 uction 1	l sum d the ly 20 train	np RHR 2 8982 ) feet 1s.	inta gate into	kes va th	dur lves e ho	ing 1 , the rizor	IR3. e ve ntal	The rtica pipi	e vide 1 pig ng se	eo ping ection	I	
		An inspection of radiography ident 8982B valve. The	the Unit ified a nut was	t 2 R smal s lef	RHR re 1 nut 5t in	circu at t place	lat he	ion : 90 de	sucti	ion e el	pipin bow t	ig us below	ing the		
	4.	JCO 89-25 was pre until the next re	pared th fueling	nat j outa	justif Ige wh	ied c en th	ont le n	inue ut w	d ope 111 b	erat De r	ion c emove	of Uni ed.	it 2		

.

3025S/0076K

!

¥



.

**\*** 

•

NAC FOR SAA	
	V.S. MUCLEAR REGULATORY COMMISSION NTINUATION APPROVED ONB NO 3150-0104 EXPIRES: 8/31/88
ACILITY NAME (1) DOCKET NUMBER (2)	LER NUMBER (8) PAGE (3)
	YEAR STOUENTIAL SALVBON
DIABLO CANYON UNIT 1	
IECT (If more space is required, use additional MRC Form \$85A's) (17)	
<ul> <li>Event 2: Sump Design/Control</li> <li>JCO 89-22 was prepared justifying corthe as-built configuration (3/16-inct grating assembly) not in accordance w (DCN) DCO-EC-908.</li> <li>An FSAR Update change notice was issuthe next annual revision to the FSAR</li> <li>The design for the recirculation sump associated safety evaluation were disrestart of Unit 1 from the third refuphone calls on November 22 and Novemb install a 3/16-inch mesh screen on th Unit 1 sump. DCP C-43762, Revision 1 for installing the 3/16-inch wire mes assembly.</li> <li>Event 3: Unit 1 Recirculation Sump As-Buil DCN DC1-EC-43762, Revision 0 was issued to Unit 1 recirculation sump noted during th DCN DC1-EC-43770 was issued requiring intended at-power openings of the access assembly of the Unit 1 or Unit 2 sump. I opening the hatch at power is acceptable, the NRC.</li> <li>Corrective Actions to Prevent Recurrence: Event 1: Housekeeping/Containment Inspections of attention is given to the recirculation sum outage containment inspection.</li> <li>Procedures will be revised prior to ti to assure the application of foreign a any recirculation sump activities.</li> </ul>	tinued operation of Unit 2 with wire mesh screen on lower ith the design change notice ed and will be incorporated into Update. for Unit 1 Cycle 4 and the cussed with the NRC prior to eling outage. As a result of er 28, 1989, PG&E decided to e lower grating assembly of the includes the safety evaluation a screen on the lower grating t Configuration or repair the deficiencies of the e as-building (DCP C-43642). dife-inch wire mesh screen on <u>During At-Power Activities</u> management review of any fatch on the upper grating management determines that concurrence will be sought from <u>ODS</u> as revised to assure additional n sump cleanliness. The ion of the screens to look for e was used for the post-1R3 e next Unit 2 refueling outage aterial exclusion controls to

\*

.

3

. · · · ·

· · ·

· · · · ·

1-833	<b>A</b>		LICENSEE EVENT R	EPORT (LER) TEXT CONT	INUATION	APPROVED ONE NO 3150
			<u></u>			EXPIRES- 8/31/88
ACILITY new	ie (1)	•		DOCKET NUMBER (2)	LER NU	MEER (6) PAGE
			,		VEAN 10001 NU	Meta W HUMPEA
DIABL	.0 <u>CAN</u>	IYON'	UNIT 1	0 5 0 0 0 2 7	<u>s 819-b1</u>	1 4 -0 11 21 50
DCT (If more a		,	additional NRC Form 386A's) (17)			
		~	- • • • - Luce blue	· · · · · · ·	<b>-</b>	
		3.	An administrative importance of perf manner.	procedure is being ae forming inspections/ve	veloped to st rifications i	ress the n a precise
	Β.	<u>Eve</u>	<u>int 2: Sump Design/C</u>	<u>Control</u>		
		1.	Nuclear Engineerin revised since 1981	g Manual Procedures 3 . The existing proce	.5, 3-6 ON, a dures ensure	nd 3.7 have been that:
			a) Design change	s for Unit 1 are prop	erly addresse	d for Unit 2.
			<ul> <li>b) Once a draft areas involve reasonablenes implementing exceptions (e</li> </ul>	design change is comp d is generally perfor s of the design chang the design change. T e.g., accessibility) i	iled, a walkd med to review e and the fea he basis for s given in th	own of the plant the sibility of some limited e procedures.
			c) A detailed sa safety-relate	fety evaluation is pe d DCP.	rformed for e	ach
			d) An FSAR Update are tracked th next revision change packag an item to ad Update.)	e change notice is is: hrough a check list for of the FSAR Update for e. (The design change dress the effect of t	sued or FSAR ( or potential or each appli e packages ex he design cha	Update changes changes in the cable design plicitly contain nge on the FSAR
		-	Although the existi existing engineerin will be reviewed to	ing procedures have build ing procedures, including or ensure the adequacy	een improved s ing the draft of the proce	since 1981, the ing procedures, dures.
		2.	In addition, DCPP H plant systems.	has implemented improv	vement program	ns to review
			a) System Enginee with the NECS frequency) per	er Program: The syste engineers (on a quart rform a walkdown of ti	em engineers f terly basis on heir systems.	in conjunction r a reasonable
			<ul> <li>b) Design Basis D enhanced or pr plant system.</li> </ul>	Documents: DCMs for t repared to provide a c	the plant syst Jetailed desig	cems are being yn basis for each
			c) Safety System Outage Modific for independer the design and	Functional Audit and cation Inspection Prog nt, detailed reviews c d the as-built configu	Review and Sa grams: These of plant syste gration.	fety System programs provide ams, including

• ¢ • ,

DIABLO CANYON TEXT (# mere spece & reputed a 3.	UNIT 1 a contained MMC Form JBEA 50 (17) Completion of the con	0 5 0 0 0 2 7 5	LER NUMBER 18		PAGE
DIABLO CANYON TEXT (# mere space & required a 3. 4.	UNIT 1 Completion of the cor	0 15 0 0 0 2 7 5	<u>B   9 — b   1  4</u>		
3. 4.	Completion of the co				2 6 OF
4.	the recirculation sur	ntainment function DCM np, has been reschedul	T-16, which w ed from 1991 t	vill inclu co 1990.	ıde
	During refueling outa as-built configuration has been closed out. refueling outage 2R3 and 2 as-built configuration	age 1R3, a Unit 1 DCN on of the Unit 1 sump A similar DCN will b The FSAR will be up gurations.	was issued to screen structu e issued for U dated to refle	identify re. This nit 2 ct the Ur	the DCN nit 1
5.	The containment sump separate sumps, will appropriate will be i	design, including the be reviewed. Any mod mplemented during the	feasibility o ifications con 1R4 and 2R4 o	f having sidered i utages.	two co, be
6.	Instances have previo deviates from the cur procedures. A review 1989, by system and o summarized in the FSA plant procedures. D Discrepancies were al procedures requiring	ously been identified rent plant configurat of the FSAR Update w lesign engineers to en R Update are appropri During this review, de so identified between revisions to plant pr	where the FSAR ion and operat as completed o sure that the ately implemen viations were the FSAR Upda ocedures.	Update ing n June 30 design ba ted into identifie te and pl	), ises ed. ant
	The root cause of the program not providing changes to the FSAR U (NPAP) E-4S6, "Proced revised to provide gu review, identificatio annual review. This responsibility for re personnel (within the	differences was attr adequate guidance fo pdate. Nuclear Plant ure Review and Revisi idelines and instruct n and actions to upda will include guidance view of various section plant) with special l	ibuted to the r identifying Administrativ on Control," w ions to ensure te the FSAR du for assigning ons of the FSA knowledge of t	FSAR Upda the requi e Procedu ill be timely ring its R Update he sectio	te red re to ns.
7.	The plant procedures significantly enhance independent verificat regarding reportabili	for reportability rev d since 1985. The pro ion by groups experien ty assessments.	iew of problem ocedures includ nced with the n	s have be de regulatio	en ns
<u>Eve</u>	nt 3: Unit 1 Recircula	tion_Sump_As-built_Cor	figuration	•	
1.	As discussed above fo configuration problem have been improved sig	r corrective actions f s, the engineering pro nce the 1981 time fram	for the design accdures in pla ne. These proc	ice today cedures	

3025S/0076K



N

,

•

ç e

2 !

19-8- j	~~	LICENSEE EVEN	T REPORT (LER) TEXT CONTI	NUATION	APPROVED OMB NO 3150-010 EXPIRES: \$/31/80
FACILITY NA	ME (1)		DOCKET NUMBER (2)	LER NUMBER (6	) PAGE (3)
				VEAR SEOUENTIAL	NUMBER
DIABL	-0 CA	NYON UNIT 1	0 5 0 0 0 2 7 5	5 8 9 -0 114	-011 21 7 OF 2
		ensure that suf eliminate incor	ficient detail is provide rect interpretation.	d for design cha	inges to
		2. The containment This DCM will p recirculation s inspections inc	function DCM T-16 has be provide a detailed design ump. Also, the revised S ludes inspection of the s	en rescheduled f basis for the co TP M-45 for cont ump screens for	for 1990. Intainment aiment gaps.
		<u>Event 4: Operabilit</u>	y of Recirculation Sump D	uring At-Power A	ctivities
		NPAP C-19/NPG 4.3 h being given to plan evaluation guidelin	as recently been revised t personnel in the requir es found in 10 CFR 50.59.	and extensive tr ements for the s	aining is afety
VI.	<u>Add</u>	itional Information	,		
	Α.	Failed Components:			
		None.			
	Β.	Previous LERs on si	milar problems:		
		None.	•		
				·	
			,		
]					

3025S/0076K

,

₹ <sup>€</sup>

t F

.