

ACCESSION NBR: 880404005 DOC. DATE: 88/03/23 STARIZED: NO DOCKET
 FACIL: 50-361 San Onofre Nuclear Station, Unit 2, Southern California 05000361
 AUTH. NAME AUTHOR AFFILIATION
 MORGAN, H. E. Southern California Edison Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-007-00: on 880223, iodine channels of containment purge
 isolation sys radiation monitors did not meet linearity
 spec in upper portion of range. Caused by design deficiency.
 W/880323 ltr.

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 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

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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
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	NRR/DEST/ADS7E4		1	0		NRR/DEST/CEB 8H		1	1
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	NRR/DEST/SGB 8D		1	1		NRR/DLPQ/HFB10D		1	1
	NRR/DLPQ/QAB10A		1	1		NRR/DOEA/EAB11E		1	1
	NRR/DREP/RAB10A		1	1		NRR/DREP/RPB10A		2	2
	NRR/DRIS/SIB9A1		1	1		NRR/PMAS/ILRB12		1	1
	<u>REG FILE</u> 02		1	1		RES TELFORD, J		1	1
	RES/DE/EIB		1	1		RES/DRPS DIR		1	1
	RGN5 FILE 01		1	1					
EXTERNAL:	EG&G GROH, M		4	4		FORD BLDG HOY, A		1	1
	H ST LOBBY WARD		1	1		LPDR		1	1
	NRC PDR		1	1		NSIC HARRIS, J		1	1
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LICENSEE EVENT REPORT (LER)

Facility Name (1) SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2										Docket Number (2) 0 5 0 0 0 3 6 1					Page (3) 1 of 0 1							
Title (4) CONTAINMENT PURGE ISOLATION SYSTEM IODINE CHANNELS INOPERABLE DUE TO DETECTOR NONLINEARITY																						
EVENT DATE (5)			LER NUMBER (6)					REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)											
Month	Day	Year	Year	///	Sequential	///	Revision	Month	Day	Year	Facility Names				Docket Number(s)							
0 2	2 3	8 8	8 8	---	0 0 7	---	0 0	0 3	23	8 8	SONGS, UNIT 3				0 5 0 0 0 3 6 2							
OPERATING MODE (9) 1			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)																			
POWER LEVEL (10) 1 0 0 //////////////////////////////////// //////////////////////////////////// //////////////////////////////////// //////////////////////////////////// ////////////////////////////////////			<input type="checkbox"/> 20.402(b)					<input type="checkbox"/> 20.405(c)					<input type="checkbox"/> 50.73(a)(2)(iv)					<input type="checkbox"/> 73.71(b)				
			<input type="checkbox"/> 20.405(a)(1)(i)					<input type="checkbox"/> 50.36(c)(1)					<input type="checkbox"/> 50.73(a)(2)(v)					<input type="checkbox"/> 73.71(c)				
			<input type="checkbox"/> 20.405(a)(1)(ii)					<input type="checkbox"/> 50.36(c)(2)					<input checked="" type="checkbox"/> 50.73(a)(2)(vii)					<input type="checkbox"/> Other (Specify in Abstract below and in text)				
			<input type="checkbox"/> 20.405(a)(1)(iii)					<input checked="" type="checkbox"/> 50.73(a)(2)(i)					<input type="checkbox"/> 50.73(a)(2)(viii)(A)									
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LICENSEE CONTACT FOR THIS LER (12)																						
Name H. E. Morgan, Station Manager										TELEPHONE NUMBER AREA CODE 7 1 4 3 6 8 - 6 2 4 1												
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																						
CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	////////	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	////////											
B	I L	D E T	N 3 0 5	Y	////////						////////											
SUPPLEMENTAL REPORT EXPECTED (14)																						
<input checked="" type="checkbox"/> Yes (If yes, complete EXPECTED SUBMISSION DATE) <input type="checkbox"/> NO															Expected Submission Date (15)		Month	Day	Year			
																	0 6	0 3	8 8			
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																						

On 2/23/88, with both Units 2 and 3 at 100% power, during a review of isotopic calibration results, it was determined that the iodine channels of the Containment Purge Isolation System (CPIS) radiation monitors (EIIS System Code IL) did not meet the linearity specification in the upper portion of their range. This nonlinearity may render the iodine channel incapable of initiating an actuation signal. Since this condition has existed during periods when Unit 2 or Unit 3 was in mode 6, the units may have operated contrary to Technical Specification 3.3.2 whenever containment purge has been in progress while in mode 6. The iodine channels have been declared inoperable and containment purge while in mode 6 is prohibited until the iodine channels are returned to operable status. There are no safety consequences from this condition since the noble gas channels remained capable of actuating CPIS.

Due to a design deficiency in the detector (EIIS Component Code DET) circuitry, the pulse amplitude output from the detector preamplifier decreases as the count rate increases while in the upper portion of the detector range. Because the iodine channels contain upper and lower pulse height discriminators based on the peak energy gamma from I-131, this decrease in pulse amplitude below the lower discriminator results in an equivalent reduction in the actual count rate seen by the channel.

Several potential solutions to minimize the decrease in detector efficiency are being evaluated, including but not limited to modifying the detector circuitry and adjusting the discriminator levels. Testing is being performed to determine the extent of the nonlinear response of other Engineered Safety Feature related radiation monitors and if other factors may also be affecting monitor response. A supplemental LER will be submitted to include our evaluation of this testing.

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Southern California Edison Company

SAN ONOFRE NUCLEAR GENERATING STATION

P. O. BOX 128

SAN CLEMENTE, CALIFORNIA 92672

March 23, 1988

H. E. MORGAN
STATION MANAGER

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

Subject: Docket No. 50-361
30-Day Report
Licensee Event Report No. 88-007
San Onofre Nuclear Generating Station, Units 2 and 3

Pursuant to 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(vii), this submittal provides the required 30-day written Licensee Event Report for occurrences involving the Unit 2 and Unit 3 Containment Purge Isolation Systems. Since these occurrences involved similar systems, cause, and corrective actions, a single report is being submitted for Unit 2 in accordance with NUREG-1022. Neither the health and safety of plant personnel nor the health and safety of the public was affected by these occurrences.

If you require any additional information, please so advise.

Sincerely,

RW Krueger for HE Morgan

Enclosure: LER No. 88-007

cc: F. R. Huey (USNRC Senior Resident Inspector, Units 1, 2 and 3)
J. B. Martin (Regional Administrator, USNRC Region V)
Institute of Nuclear Power Operations (INPO)

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11