

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8710210070 DOC. DATE: 87/10/13 NOTARIZED: NO DOCKET #  
 FACIL: 50-361 San Onofre Nuclear Station, Unit 2, Southern Californ 05000361  
 AUTH. NAME AUTHOR AFFILIATION  
 MORGAN, H. E. Southern California Edison Co.  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-016-00: on 870915, fuel handling isolation sys actuated  
 when airborne monitors 2RT-7822 & 2RT-7823 reached high  
 actuation setpoint. Caused by buildup of iodine in charcoal  
 absorber sample cartridges. Cartridges replaced. W/871013 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5  
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: ELD Chandler lcy.

05000361

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	PD5 LA		1	1		PD5 PD		1	1
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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
	ARM/DCTS/DAB		1	1		DEDRO		1	1
	NRR/DEST/ADS		1	0		NRR/DEST/CEB		1	1
	NRR/DEST/ELB		1	1		NRR/DEST/ICSB		1	1
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	NRR/DEST/SGB		1	1		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/DRIS/SIB		1	1		NRR/PMAS/ILRB		1	1
	REG FILE 02		1	1		RES DEPY GI		1	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	1
	LPDR		1	1		NRC PDR		1	1
	NSIC HARRIS, J		1	1		NSIC MAYS, G		1	1

NOTES: 1 1

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2	0 5 0 0 0 3 6 1	1 OF 0 4

TITLE (4)
FUEL HANDLING ISOLATION SYSTEM (FHIS) ACTUATIONS DUE TO SAMPLE CARTRIDGE ACTIVITY BUILDUP

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQ. NUMBER	REV. NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
0 9	1 5	8 7	8 7	0 1 6	0 0	1 0	1 3	8 7		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	6	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)							
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	X	50.73(a)(2)(iv)	73.71(b)			
		20.405(a)(1)(i)	50.36(c)(1)		50.73(a)(2)(v)	73.71(c)			
		20.405(a)(1)(ii)	50.36(c)(2)		50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)			
		20.405(a)(1)(iii)	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)				
		20.405(a)(1)(iv)	50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)				
		20.405(a)(1)(v)	50.73(a)(2)(iii)		50.73(a)(2)(x)				

## LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
H. E. MORGAN, STATION MANAGER	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	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

## SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

Abstract (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On 09/15/87, at 1415, and again on 09/28/87, at 1404, with Unit 2 in Mode 6 during refueling operations, an actuation of the Fuel Handling Isolation System (FHIS) occurred when Airborne Monitors 2RT-7822 and 2RT-7823, respectively, reached the particulate/iodine channel high level actuation setpoint.

The cause of the FHIS actuations was a buildup of iodine in the charcoal absorber sample cartridges of the FHIS monitors. The sample cartridges on 2RT-7822 and 2RT-7823 were replaced. For both actuations, after verifying Fuel Handling Building (FHB) radiation levels were below the actuation setpoint, the FHIS was reset/secured. All FHIS components functioned as designed.

The frequency for sample cartridge replacement was increased from weekly to daily following the 9/15 actuation, and was further increased to shiftly following the 9/28 actuation. Additionally, the shiftly surveillance procedure for these monitors will be revised to ensure cartridge replacement is initiated when required.

There is no safety significance to this event since all FHIS components functioned as designed.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

SAN ONOFRE NUCLEAR GENERATION STATION UNIT 2	DOCKET NUMBER 05000361	LER NUMBER 87-016-00	PAGE 2 OF 4
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Plant: San Onofre Nuclear Generating Station (SONGS)

Unit: 2

Reactor Vendor: Combustion Engineering

Event Dates: 09-15-87 and 09-28-87

Times: 1415 and 1404

A. PLANT CONDITIONS AT TIME OF THE EVENT:

Mode: (6) Refueling  
Refueling operation in progress

B. BACKGROUND INFORMATION:

The Fuel Handling Isolation System (FHIS) (EIIS System Code VG) consists of two independent "trains" of radiation monitors (2RT-7822 and 2RT-7823) (EIIS Component Code RIT), associated dampers and recirculation filtration units. Each monitor contains a particulate/iodine channel and a noble gas channel. When one channel of either monitor senses high activity, a FHIS actuation occurs which isolates normal ventilation to the Fuel Handling Building (FHB) and initiates recirculation.

C. DESCRIPTION OF THE EVENT:

1. Event:

On 09/15/87, at 1415, and again on 09/28/87, at 1404, with Unit 2 in Mode 6, an actuation of the FHIS occurred when Airborne Monitors 2RT-7822 and 2RT-7823, respectively, reached the particulate/iodine channel high level actuation setpoint. The cause of the FHIS actuations was a buildup of iodine in the charcoal absorber sample cartridge (EIIS Component Code ABS) of the FHIS monitors. For both actuations, after replacing the sample cartridge and verifying FHB radiation levels were below the actuation setpoint, the FHIS was reset/secured. All FHIS components functioned as designed.

The sample cartridge of monitor 2RT-7822 was last changed on 09/10/87. Fuel handling activities, which began on 09/14/87, resulted in the buildup of iodine in the sample cartridge, causing the monitor to reach its high level actuation setpoint on 09/15/87.

As a result of the 09/15/87 actuation of 2RT-7822, the weekly frequency of replacing both FHIS monitor sample cartridges was increased to daily. On 09/27/87, at 0710, the sample cartridge for monitor 2RT-7823 was replaced. By 1404, on 09/28/87, just prior to the daily sample cartridge replacement, iodine in the monitor sample cartridge had again increased to the high level actuation setpoint.

2. Inoperable Structures, Systems or Components that Contributed to the Event:

None

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

SAN ONOFRE NUCLEAR GENERATION STATION UNIT 2	DOCKET NUMBER 05000361	LER NUMBER 87-016-00	PAGE 3 OF 4
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## 3. Sequence of Events:

	TIME	ACTION
09/10/87	1430	Sample cartridge in 2RT-7822 is replaced.
09/14/87	1340	Fuel handling activities are initiated.
09/15/87	1415	FHIS Train 'A' actuation from 2RT-7822 particulate/iodine channel.
	1445	FHIS reset/secured.
09/27/87	0710	Sample cartridge in 2RT-7823 is replaced.
09/28/87	1404	FHIS Train 'B' actuation from 2RT-7823 particulate/iodine channel.
	1457	FHIS reset/secured.

## 4. Method of Discovery:

Control Room indication of FHIS actuation.

## 5. Personnel Actions and Analysis of Actions:

Operators responded properly to each FHIS actuation by verifying proper system operation and ensuring FHB airborne activities were below the actuation setpoint prior to resetting FHIS.

## 6. Safety System Responses:

All FHIS components functioned as designed.

## D. CAUSE OF THE EVENT:

### 1. Immediate Cause:

The increase of iodine levels in the FHB resulting from the refueling operations, fuel movement, and reconstitution activities involving leaking fuel.

### 2. Intermediate Cause:

The cause of the FHIS actuations was a buildup of iodine in the sample cartridges of the FHIS monitors between replacements.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

SAN ONOFRE NUCLEAR GENERATION STATION UNIT 2	DOCKET NUMBER 05000361	LER NUMBER 87-016-00	PAGE 4 OF 4
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3. Root Cause:

The replacement frequency of the FHIS monitor sample cartridges was not increased commensurate with the type of activity taking place in the FHB.

E. CORRECTIVE ACTIONS:

1. Corrective Actions Taken:

The sample cartridges on 2RT-7822 and 2RT-7823 were replaced.

The frequency for sample cartridge replacement was increased from weekly to daily following the 9/15 actuation, and was further increased to shiftly following the 9/28 actuation. During this refueling outage, sample cartridges will be replaced daily when fuel handling activities are underway and shiftly when fuel reconstitution is underway.

2. Planned Corrective Actions:

The radiation monitor shiftly surveillance procedure will be revised to add a step that requires a comparison of the as-found reading of the particulate/iodine channel of the FHIS monitor to the actuation setpoint reading and the initiation of replacement of the sample cartridge when these values are within a prescribed criteria. This comparison will be required during normal plant operation and refueling.

F. SAFETY SIGNIFICANCE OF THE EVENT:

There is no safety significance to this event since all FHIS components functioned as designed.

G. ADDITIONAL INFORMATION:

1. Component Failure Information:

Not applicable.

2. Previous LERs on Similar Events:

LER 85-031 (Docket No. 362) describes FHIS actuations which occurred during a previous Unit 3 refueling outage. As with the actuations described herein, refueling operations, fuel movement and fuel reconstitution activities involving leaking fuel led to an increase in FHB iodine levels which, over time, built up on the sample cartridge causing the FHIS actuations. The frequency of sample cartridge replacements was increased during that refueling outage, however, the need for procedure revisions to ensure that increased replacements would occur during subsequent refueling operations was not identified.

3. Results of NPRDS Search:

Not Applicable.

*Southern California Edison Company*

SAN ONOFRE NUCLEAR GENERATING STATION

P. O. BOX 128

SAN CLEMENTE, CALIFORNIA 92672

October 13, 1987

USNRC-DS

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H. E. MORGAN  
STATION MANAGER

TELEPHONE  
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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. 87-016  
San Onofre Nuclear Generating Station, Unit 2

Pursuant to 10 CFR 50.73(a)(2)(iv), this submittal provides the required 30-day written Licensee Event Report (LER) for occurrences involving two actuations of the Fuel Handling Isolation System. 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,

*H E Morgan*

Enclosure: LER No. 87-016

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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