NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Rancho Seco Nuclear Generating Station	0 5 0 0 0 3 1 2	1 OF 0 3

TITLE (4)

Decay Heat System Isolation Caused by Inadvertent Actuation of Suction Valve Interlock

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
										0 5 0 0 0
0 7	1 5	8 7	8 7	— 0 3 8	— 0 0	0 8	1 2	8 7	None	0 5 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

OPERATING MODE (9)						
N	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)		
POWER LEVEL (10) 0 1 0 0	20.405(a)(1)(i)	50.36(c)(1)	X 50.73(a)(2)(v)	73.71(c)		
	20.405(a)(1)(ii)	50.36(c)(2)	X 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
	AREA CODE
Dave Schumann, Nuclear Licensing Department	9 1 6 4 5 2 - 3 2 1 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
B	B P	I S V	L 2 0 0	N							
A	B P	I S V	L 2 0 0	N							

SUPPLEMENTAL REPORT EXPECTED (14)

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

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

At 10:02 p.m. on July 15, 1987, the "A" Decay Heat Pump tripped due to closure of pump suction valve HV-20002. The incident occurred during the performance of authorized modifications by a contractor electrician to the "B" Core Flood Tank outlet valve HV-26514 resulting in an automatic close signal being inadvertently produced for HV-20002. HV-26514 was reassembled by the contractor electrician and the Control Room operator re-opened HV-20002 and, in accordance with procedure A.8 Decay Heat System, restored the "A" Decay Heat Pump to service at 10:42 p.m. on July 15, 1987. The Decay Heat System (DHS) pump was out of service for 40 minutes. The plant was in cold shutdown at the time of the occurrence.

This event is reportable in accordance with 10 CFR 50.73(a)(2)(v, vi, vii).

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Plant operating conditions before the event

The plant has been in a continuous cold shutdown condition since December 26, 1985.

On July 15, 1987, the Decay Heat Removal System Train "A" was in service to remove decay heat.

Status of components that were inoperable at the start of this event that contributed to the event

The power supply breaker for the "B" Core Flood Tank outlet valve HV-26514 was clearance tagged in the "Off" position.

Date and approximate times of occurrence

At 10:02 p.m. on July 15, 1987, the "A" Decay Heat Pump tripped due to closure of pump suction valve HV-20002. The "A" Decay Heat Pump was restored to service at 10:42 p.m. on July 15, 1987.

The cause of the event

In the course of performing authorized wiring modifications to HV-26514, a contractor electrician lifted a wire that provided closed valve position indication to the HV-20002 control circuit. On loss of the HV-26514 closed position input, the control circuit actuated HV-20002 to the closed position.

The closure of HV-20002 resulted in the automatic trip of the "A" Decay Heat Pump.

The Energy Industry Identification System component function identifier and system name of each component or system referred to in the LER

The Decay Heat System is NRC LER System "BP".

The Core Flood System is NRC LER System "BP".

Discussion of the personnel error

The contractor electrician who determinated the wire at HV-26514 was unaware that this action would trip the "A" Decay Heat Pump.

The clearance established for the authorized modification on HV-26514 did not de-energize the interlock circuit for HV-20002. AP.4A, Safe Clearance Procedure Danger Tags, requires a job scope review to be performed by the job supervisor, maintenance planner, and operations representative. The review that was conducted was not sufficient. The control room senior licensed operator conducted the additional operations review required immediately prior to the initiation of work. This review also failed to recognize the potential problem.

The method of discovery of the event

A licensed control room operator initially responded to annunciator "HV 20001/ HV 20002 Closed DH Pump Trip" in alarm and verified that valve HV-20002 was closed. Via use of control room indications, the licensed operator verified the subsequent trip of the "A" Decay Heat Pump.

A description of any corrective actions planned as a result of the event

Prior to Restart all foremen authorized to receive clearances, maintenance planners and licensed operators, shall review specific sections of AP.4A Safe Clearance Procedure Danger Tags. The sections to be reviewed are 5.1.2, clearance review; 5.2.2, clearance request; and 5.6.3, clearance walkdowns.

The Independent Investigation/Reviews Group (IIRG) will review this event. This LER will be updated if required, following completion of that review.

Previous similar events

LERs 82-15 and 86-24 reported power supply failures of the S1B and S1A inverters, respectively. The failures occurred during preventive maintenance activities and resulted in the temporary loss of the DHS following the auto-closure of the dropline valves. Both events occurred during cold shutdown conditions.

LER 85-16 described spurious high Reactor Coolant System pressure signals which caused the DHS pump to trip during cold shutdown conditions.

LER 85-18 reported an automatic start of the "A" Emergency Diesel Generator due to a trip of the 4A bus as a result of distribution system high voltage. During this occurrence decay heat removal cooling was temporarily interrupted due to automatic closure of the DHS suction valve on restoration of power to the bus.

LER 86-16 described the loss of a vital bus due to a short in an indication circuit. This short resulted in a loss of the DHS during cold shutdown conditions following the auto-closure of the dropline valve.

LER 86-30 detailed the automatic closure of DHS suction valve HV-20001 on restoration of power to its supply bus. The control room operator had lost power to the bus as a result of an error in the transfer of the bus supply power from Startup Transformer #1 to Startup Transformer #2. This loss of the DHS occurred during cold shutdown.

SMUD
SACRAMENTO MUNICIPAL UTILITY DISTRICT ☐ P. O. Box 15830, Sacramento CA 95852-1830, (916) 452-3211
AN ELECTRIC SYSTEM SERVING THE HEART OF CALIFORNIA

GCA 87-403

AUG 12 1987

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Docket No. 50-312
Rancho Seco Nuclear Generating Station
License No. DPR-54
LICENSEE EVENT REPORT 87-038 REV. 0

Dear Sirs:

In accordance with the requirements of 10 CFR Part 50.73(a)(2)(v, vi, vii) the Sacramento Municipal Utility District hereby submits Licensee Event Report Number 87-038.

If there are any questions concerning this report, please contact Mr. Dave Schumann at (916) 452-3211, extension 4676.

Sincerely,

G. Carl Andognini
Chief Executive Officer,
Nuclear

Attachment

cc w/atch:

G. Kalman, NRC, Bethesda (2)
A. D'Angelo, NRC, Rancho Seco
J. B. Martin (2)
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