

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 0 4		
Title (4) LOSS OF PRESSURIZER LEVEL DUE TO A VALVE ALIGNMENT ERROR.																		
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)			
										NONE								
0	4	0	6	9	5	9	5	0	0	5	0	0	0	5	0	8	9	5
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)															
POWER LEVEL (10) 0 0 0			<div style="display: flex; justify-content: space-between;"> <div> 20.402(b) 20.405(a)(1)(i) 20.405(a)(1)(ii) 20.405(a)(1)(iii) 20.405(a)(1)(iv) 20.405(a)(1)(v) </div> <div> 20.405(c) 50.36(c)(1) 50.36(c)(2) 50.73(a)(2)(i) 50.73(a)(2)(ii) 50.73(a)(2)(iii) </div> <div> 50.73(a)(2)(iv) 50.73(a)(2)(v) 50.73(a)(2)(vii) 50.73(a)(2)(viii)(A) 50.73(a)(2)(viii)(B) 50.73(a)(2)(x) </div> <div> 73.71(b) 73.71(c) <input checked="" type="checkbox"/> Other (Specify in Abstract below and in text) Voluntary Report </div> </div>															
LICENSEE CONTACT FOR THIS LER (12)																		
Name R. W. Krieger, Vice President, Nuclear Generation												TELEPHONE NUMBER AREA CODE 7 1 4 3 6 8 - 6 2 5 5						
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	////////							
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SUPPLEMENTAL REPORT EXPECTED (14)												Expected Submission Date (15)		Month Day Year				
<input type="checkbox"/> Yes (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO																		
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																		

On April 6, 1995, with Unit 2 near the end of the cycle 8 refueling outage, plant operators were increasing Reactor Coolant System (RCS) temperature to move the plant from Mode 5 to Mode 4. Operators were completing steps to isolate the Shutdown Cooling System from the RCS and realign the Low Pressure Safety Injection (LPSI) pumps to the Emergency Core Cooling System. While attempting to close the SDCS to LPSI Pump suction isolation valve 2HV-9379, the control power fuse blew and the valve did not close. Prior to ensuring the valve was closed, the Control Room Supervisor (CRS) directed the Assistant Control Operator to continue with the procedure to terminate shutdown cooling. When LPSI mini-flow isolation valves were opened a flow path from the RCS to the RWST was created. Pressurizer (PZR) level began to decrease and the "PZR Level Error Lo" alarm actuated. The control room operators responded by starting a second charging pump and closing the LPSI pump mini-flow isolation valves. PZR level immediately began to recover and was restored to normal within 10 minutes.

The immediate cause of this event was a failure of control room operators to follow procedures. The CRS directed the Assistant Control Operator to continue with the valve lineup to terminate shutdown cooling without completing the procedure step which required 2HV-9379 to be closed. Weaknesses in control room command and control, and communications also contributed to this event.

Special orders restating management's expectation on procedure step sequencing, and control room command structure were issued. Management oversight in the control room was increased. The individuals involved were coached and counseled. SO123-0-20, "Use of Procedures" was also revised to clarify requirements for following procedure steps in sequence. Edison is further evaluating the control room command structure to determine if any changes are necessary.

The safety significance of this event was minimal. The increase in core damage risk attributable to this event is estimated to be less than 1E-8.

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Plant: San Onofre Nuclear Generating Station, Unit 2
 Reactor Vendor: Combustion Engineering
 Event Date: April 6, 1995
 Mode: Mode 4
 Pressure: Approximately 350 psia
 Temperature: Approximately 250 degrees F

DESCRIPTION OF THE EVENT:

On April 6, 1995, with Unit 2 near the end of the cycle 8 refueling outage, plant operators [Utility, Licensed] were increasing Reactor Coolant System (RCS) [AB] temperature to move the plant from Mode 5 to Mode 4. To continue the plant heatup, in accordance with SO23-5-1.3, "Plant Startup from Cold Shutdown to Hot Standby," operators [Utility, Licensed] are required to terminate shutdown cooling using procedure SO23-3-2.6, "Shutdown Cooling System Operations." Operators were completing steps to isolate the Shutdown Cooling System (SDCS) [BP] from the RCS and realign the Low Pressure Safety Injection (LPSI) pumps [BP,P] to the Emergency Core Cooling System [BP]. In completing this alignment, procedure SO23-3-2.6 directs the operators to close the Train A and B SDCS to LPSI suction isolation valves 2HV-9336 and 2HV-9379 [BP,ISV] and then to open the LPSI pump mini-flow isolation valves [FB,ISV].

While attempting to close the SDCS to LPSI Pump (LPSI) suction isolation valve 2HV-9379, the control power fuse blew and the valve did not close. The control room operators [Utility, Licensed] began investigating the blown fuse on 2HV-9379. However, prior to ensuring the valve was closed, the Control Room Supervisor (CRS) [Utility, Licensed] directed the Assistant Control Operator [Utility, Licensed] to continue with the procedure to terminate shutdown cooling.

At approximately 0205, the LPSI mini-flow isolation valves were opened before 2HV-9379 had been closed. This created a flow path from the RCS to the Refueling Water Storage Tank (RWST) [BP,TK] through 2HV-9379 and the LPSI mini-flow isolation valves (See attached figure). Pressurizer (PZR) [AB,PZR] level began to decrease and the "PZR Level Error Lo" alarm [IB,LA] actuated. The control room operators responded by starting a second charging pump [CB,P] and closing the LPSI pump mini-flow isolation valves. PZR level immediately began to recover and was restored to normal within 10 minutes.

A review of control room charts and computer printouts of PZR level determined that a volume of approximately 670 gallons was transferred from the RCS to the RWST in two (2) minutes. This equates to a flow rate of 335 gpm. Because this flow rate exceeded the available charging pump capacity, SONGS Emergency Plan Implementing procedures (EPIPs) would have required the declaration of a Site Area Emergency had operators known the RCS to RWST flow rate prior to event termination; however, adequate RCS makeup capability was always available through the High Pressure Safety Injection (HPSI) [BP] system.

Edison voluntarily reported this event to the NRC Operations Center at 0320. While compliance was maintained with all Technical Specification requirements during this occurrence, Edison is submitting this voluntary report due to NRC and industry interest.

CAUSE OF EVENT:

The immediate cause of this event was a failure of control room operators to follow procedures, a cognitive personnel error. The CRS directed the Assistant Control Operator to continue with the valve lineup to terminate shutdown cooling without completing the procedure step which required 2HV-9379 to be closed. This was contrary to the requirements of SO123-0-20 "Use of Procedures" which required these procedure steps to be performed in sequence. Weaknesses in control room command and control, and

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communications also contributed to this event. These issues were the focus of the Operation Division Experience Report (ODER) discussed below and NRC special inspection No. 95-06, conducted the week of April 10, 1995.

CORRECTIVE ACTIONS:

The event was terminated at 0207 when the mini-flow isolation valves were reclosed, eliminating the flow path from RCS to RWST. Edison Management issued the following to the Operations Staff: 1) a special order restating management's expectation on procedure step sequencing, and 2) a special order restating control command structure, clarifying the duties of control room personnel and the Shift Superintendent. Edison also implemented an around the clock management oversight presence in the control room during the unit's startup from the current outage. The individuals involved in this event were coached and counseled, as appropriate. SO123-0-20, "Use of Procedures" was also revised to clarify requirements for following procedure steps in sequence.

Edison also completed an Operation Division Experience Report to fully evaluate this event. As result of the ODER, Edison concluded that a further evaluation of the control room command structure was necessary. This further evaluation will be completed by July 1, 1995. Changes to the control room command structure will be implemented, if required.

SAFETY SIGNIFICANCE OF THE EVENT:

The safety significance of this event was minimal. The increase in core damage risk attributable to this event is estimated to be less than $1E-8$.

ADDITIONAL INFORMATION:

Shortly after this event, a violation of Technical Specification 3.0.4 occurred when temperature increased above 250 degrees F with RCS dissolved oxygen concentration above the steady state TS limit. The TS 3.0.4 event is being reported in LER 2-95-006.

LER 2-93-004 reported an incomplete TS surveillance which resulted from a control room operator failing to follow procedures. In that event, the operator involved did not verify the procedure copy used to perform the surveillance was complete.

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LPSI mini-flow isolation valves

