

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 3		
Title (4) Reactor Coolant System Dissolved Oxygen Out Of Specification															
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   4	0   6	95	95	---	0   0   6	---	0   0	0   5	0   8	9   5	NONE		0   5   0   0   0		
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)												
POWER LEVEL (15) 0   0   0 //////////////////////////////////// //////////////////////////////////// //////////////////////////////////// //////////////////////////////////// ////////////////////////////////////			20.402(b)		20.405		50.73(a)(2)(iv)		73.71(b)						
			20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71						
			20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		Other (Specify in Abstract below and in text)						
			20.405(a)(1)(iii)		X 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 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-	REPORTABLE	////////	CAUSE	SYSTEM	COMPONENT	MANUFAC-	REPORTABLE	////////				
			TURER	TO NPRDS	////////				TURER	TO NPRDS	////////				
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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)															

On April 6, 1995, with Unit 2 near the end of the Cycle 8 refueling outage, reactor operators were increasing RCS temperature to move the plant from Mode 5 to Mode 4. At 0200 with the RCS at approximately 230 F, the daily required RCS sample was taken by Chemistry and found to have a dissolved oxygen concentration of 200 ppb. At 0220, the control room was notified of this result and permission was requested to add hydrazine to reduce the measured oxygen levels. The Control Room granted permission and took action to allow the addition of hydrazine, which was added to the RCS at approximately 0300. However, contrary to procedure, at 0310 operators [Licensed, Utility] increased plant temperature above 250 F prior to receiving a valid RCS sample confirming oxygen within the steady state limit of 100 ppb. Because the requirements of Technical Specification 3.4.6 action "A" were applicable when plant temperature was increased above 250 F, Edison is reporting this occurrence in accordance with 10CFR50.73(a)(2)(i).

At 0400, it was confirmed by sample that RCS dissolved oxygen levels had been returned to below TS steady state limits by the addition of hydrazine. The Operators involved were counseled regarding adherence to procedures.

There was minimal safety significance to this event; dissolved oxygen concentrations were likely in specification within minutes of 0310 when RCS temperature exceeded 250 degrees F. Additionally, the dissolved oxygen concentration always remained within the transient limit.

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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 F

Background:

With average RCS [AB] temperature greater than or equal to 250 degrees F, Technical Specification (TS) 3.4.6 requires dissolved oxygen to be less than or equal to the steady state dissolved oxygen limit of 100 ppb. With the RCS dissolved oxygen above the steady state limit but below the transient limit of 1000 ppb, Edison is required to restore the RCS Oxygen level to its steady state limit within 24 hours. TS 3.0.4 requires all TS requirements to be satisfied, without reliance on Action statement requirements, prior to entering a plant Mode or specified plant condition in which the TS would apply.

Description of the event:

On April 6, 1995, with Unit 2 near the end of the Cycle 8 refueling outage, reactor operators [Utility, Licensed] were increasing RCS temperature to move the plant from Mode 5 to Mode 4. At 0200 with the RCS at approximately 230 degrees F, the daily required RCS sample was taken by Chemistry and found to have a dissolved oxygen concentration of 200 ppb. At 0220, the control room was notified of this result and permission was requested to add hydrazine to reduce the measured oxygen levels. The Control Room granted permission and took action to allow the addition of hydrazine, which was added to the RCS at approximately 0300. It is not known how quickly the addition of hydrazine would have reduced the dissolved oxygen concentration at this temperature; prior experience indicates that within 10 to 15 minutes the dissolved oxygen concentration should have been reduced to below 100 ppb.

However, contrary to procedure, at 0310 operators [Licensed, Utility] increased plant temperature above 250 degrees F prior to receiving a valid RCS sample confirming oxygen within the steady state limits. At about 0400, following a review of the procedure and plant logs, Edison recognized the RCS dissolved oxygen concentration might have been greater than 100 ppb as the RCS heated up through 250 degrees F.

Because the requirements of TS 3.4.6 action "A" were applicable when plant temperature was increased above 250 degrees F, Edison is reporting this occurrence in accordance with 10CFR50.73(a)(2)(i).

Cause of the Event:

The cause of this event was failure of a reactor operator [Utility, Licensed] to follow procedures. Procedure SO23-5-1.3, "Plant Startup From Cold Shutdown To Hot Standby", step 6.18.2 requires: "Prior to exceeding 245 F RCS temperature, request the Chemistry Division Foreman to verify RCS oxygen concentration is less than 0.1 ppm (Tech. Spec. 3.4.6)," but this was not done. The Control Room Supervisor (CRS) had not completely reviewed and understood the procedure step which required dissolved oxygen to be verified within TS limits prior to exceeding 250 degrees F, but acted on a mistaken understanding of those procedural requirements based on an earlier conversation with the Assistant Plant Superintendent (APS) [Licensed, Utility] when RCS chemistry was within specifications.

Additionally, approximately one hour before this event, the CRS had been involved in a loss of pressurizer level event (LER 2-95-005). Edison believes that control room attention to that earlier event may have contributed to the CRS' inattention to detail.

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Corrective Actions:

At 0400, it was confirmed by sample that RCS dissolved oxygen levels had been returned to below TS steady state limits by the addition of hydrazine. The Operators involved were counseled regarding adherence to procedures.

This event occurred approximately one hour after an event involving a reduction in pressurizer level due to a valve alignment error which is discussed in LER 2-95-005. The same individuals were involved in both events. Corrective actions for the LER 2-95-005 event include: 1) an Operations Division Event Report; 2) the issuance of two Operation's "Special" Orders which clarify procedure sequence guidance and Control Room Command expectations; 3) the revision of procedure SO123-0-20, "Use of Procedures" to include clearer direction regarding procedural step sequencing requirements; and 4) an evaluation of Control Room command structure. Edison believes these corrective actions will encompass both events.

Safety Significance:

There was minimal safety significance to this event; dissolved oxygen concentrations were likely in specification within minutes of 0310 when RCS temperature exceeded 250 degrees F. Additionally, the dissolved oxygen concentration always remained within the transient limit.

Additional Information:

A review of LERs for the past three years did not reveal any previous similar events associated with RCS chemistry parameters and/or TS 3.4.6.

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.