

April 25, 2001

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

Subject: **Docket Nos. 50-361 and 50-362**  
**60-Day Report**  
**Licensee Event Report No. 2001-002**  
**San Onofre Nuclear Generating Station, Units 2 and 3**

Gentlemen:

This submittal provides Licensee Event Report (LER) 2001-002. While this occurrence is applicable to both Units 2 and 3, a single report for Unit 2 is being submitted in accordance with NUREG-1022, Rev. 2. These events did not affect the health and safety of either plant personnel or the public.

Any actions listed are intended to ensure continued compliance with existing commitments as discussed in applicable licensing documents; this LER contains no new commitments. If you require any additional information, please advise.

Sincerely,



Enclosure: LER 2001-002

cc: E. W. Merschoff, Regional Administrator, NRC Region IV  
J. G. Kramer, NRC (Acting) Senior Resident Inspector, San Onofre Units 2 & 3

JE22

<b>NRC FORM 366</b> (MM-YYYY)	<b>U.S. NUCLEAR REGULATORY COMMISSION</b>	<b>APPROVED BY OMB NO. 3150-0104</b> Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Information and Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If a document used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.	<b>EXPIRES MM-YYYY</b>
<b>LICENSEE EVENT REPORT (LER)</b>  (See reverse for required number of digits/characters for each block)			

<b>FACILITY NAME (1)</b> San Onofre Nuclear Generation Station (SONGS) Unit 2	<b>DOCKET NUMBER (2)</b> 05000-361	<b>PAGE (3)</b> 1 of 4
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**TITLE (4)**  
**Incorrect Technical Specification Surveillances on Reactor Protection System Logic**

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 NAME	DOCKET NUMBER
02	28	2001	2001	- 002 -	00	04	25	2001	SONGS Unit 3	05000-362
									FACILITY NAME	DOCKET NUMBER

<b>OPERATING MODE (9)</b>	1	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)</b>							
<b>POWER LEVEL (10)</b>	100	20.2201(b)		20.2203(a)(3)(i)		50.73(a)(2)(i)(C)		50.73(a)(2)(vii)	
		20.2201(d)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(A)	
		20.2203(a)(1)		20.2203(a)(4)		50.73(a)(2)(ii)(B)		50.73(a)(2)(viii)(B)	
		20.2203(a)(2)(i)		50.36(c)(1)(i)(A)		50.73(a)(2)(iii)		50.73(a)(2)(ix)(A)	
		20.2203(a)(2)(ii)		50.36(c)(1)(ii)(A)		50.73(a)(2)(iv)(A)		50.73(a)(2)(x)	
		20.2203(a)(2)(iii)		50.36(c)(2)		50.73(a)(2)(v)(A)		73.71(a)(4)	
		20.2203(a)(2)(iv)		50.46(a)(3)(ii)		50.73(a)(2)(v)(B)		73.71(a)(5)	
		20.2203(a)(2)(v)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(C)		OTHER	
20.2203(a)(2)(vi)		X		50.73(a)(2)(i)(B)		Specify in Abstract below or in NRC Form 366A			

LICENSEE CONTACT FOR THIS LER (12)	
NAME R. W. Krieger, Vice President, Nuclear Operations	TELEPHONE NUMBER (Include Area Code) 949-368-6255

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)			
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO			MONTH	DAY	YEAR

**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

The San Onofre Nuclear Generating Station (SONGS) Reactor Trip Circuit Breakers (RTCBs) are General Electric (GE) model AK-2-25 and are actuated via both shunt and undervoltage coils. Southern California Edison (SCE) implements Technical Specification (TS) Surveillance Requirement (SR) 3.3.4.2 and TS SR 3.3.4.4 (as they apply to the RTCBs) by verifying the loss of voltage across the undervoltage coil circuit and by verifying the presence of voltage across the shunt coil circuit.

On 2/28/01, SCE recognized that the breaker auxiliary contact was in series with the shunt coil between the two points used to verify voltage across the coil circuit. The RTCB Switchgear design contains a resistor and a light that provide a parallel pathway around both the RPS Logic K-relay contact and the manual push button contact. Therefore, because of this parallel voltage path and series auxiliary contact, SCE's test method did not satisfactorily implement TS SR 3.3.4.2 or TS SR 3.3.4.4. SCE is reporting this event in accordance with 10 CFR 50.73(a)(2)(i)(B). SCE performed the verification of the K-relay contacts and the manual push button contacts after removing the parallel voltage pathway. Because the RTCBs contain redundant trip devices (i.e., both a shunt trip coil and an undervoltage trip coil) and the successful completion of the TS SRs, this issue has no safety significance.

## LICENSEE EVENT REPORT (LER)

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Plant:	San Onofre Nuclear Generation Station (SONGS) Units 2 and 3	
Discovery Date:	February 28, 2001	
	<u>Unit 2</u>	<u>Unit 3</u>
Reactor Vendor:	Combustion Engineering	Combustion Engineering
Mode:	Mode 1 – Power Operation	Mode 5 – Cold Shutdown
Power:	100 percent	0 percent
Temperature:		145 degrees F
Pressure:		350 psia

**BACKGROUND:**

The San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 Technical Specification (TS) Surveillance Requirements (SRs) 3.3.4.2 and 3.3.4.4 direct SCE to perform a CHANNEL FUNCTIONAL TEST on each Reactor Protection System (RPS) [JC] Logic Channel, and on the Reactor Trip Circuit Breaker (RTCB) [BKR] Manual Trip, respectively. The SONGS RTCBs are General Electric (GE) model AK-2-25 and are actuated via both shunt and undervoltage coils [CL]. Southern California Edison (SCE) implements these TS SRs (as they apply to the RTCBs) by verifying the loss of voltage across the undervoltage coil circuit and by verifying the presence of voltage across the shunt coil circuit.

**DESCRIPTION:**

On February 28, 2001 (discovery date), while assessing the Unit 3 plant response associated with the February 2001 fire (reported in LER 3-2001-001), the RTCB cognizant engineer recognized that the breaker auxiliary contact was in series with the shunt coil between the two points used to verify voltage across the coil circuit (see Figure 1). The RTCB Switchgear [SWGR] design contains a 2000 Ohm resistor and a red indicating light [IL] that provide a parallel pathway around both the RPS Logic K-relay [RLY] contact and the manual push button contact. Although the breaker auxiliary contact opens when the breaker is tripped, voltage is always present at the measured test points through the parallel pathway, regardless of the position of the manual trip pushbutton contact or the K-relay contact. Therefore, because of this parallel voltage path and series auxiliary contact, SCE's test method did not satisfactorily implement TS SR 3.3.4.2 or TS SR 3.3.4.4 (AR 010201704).

Once SCE concluded that the TS SRs were not being adequately performed, Unit 2 conservatively entered the 24 hour action period of SR 3.0.3 for a missed TS SR. (Unit 3 was in Mode 5 at the time of discovery and was not subject to the requirements of TS 3.3.4.) SCE performed SRs 3.3.4.2 and 3.3.4.4 for both Units 2 and 3 with the 2000 Ohm resistor removed during the test (removing the alternate, parallel, voltage pathway). All of the SRs were completed satisfactorily. However, because this event is associated with the SR implementing procedures (rather than consisting solely of a case of a late surveillance test), SCE is reporting this event in accordance with 10 CFR 50.73(a)(2)(i)(B).

**CAUSE:**

SCE procedures have not adequately implemented TS SRs 3.3.4.2 and 3.3.4.4 since 1987. Due to the passage of time, SCE has not determined the cause of the procedural errors.

SCE was provided an opportunity to identify this issue during the Generic Letter 96-01 review of this circuit. During SCE's review (initial review, see Additional Information section), the implementing procedure for TS SR 3.3.4.4 was identified as requiring modification. Believing the procedure for TS SR 3.3.4.2 to be adequate, SCE modified the procedure for TS SR 3.3.4.4 to contain a similar testing methodology. However, because the procedure for implementing TS SR 3.3.4.2 was itself not adequate

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as described above, the change to the procedure implementing TS SR 3.3.4.4 also did not adequately meet the requirements of TS SR 3.3.4.4. These inadequate corrective actions resulted from a lack of management oversight during the review of the procedure change.

**CORRECTIVE ACTION:**

SCE performed the verification of the K-relay contacts and the manual push button contacts after removing the parallel voltage pathway.

During the GL 96-01 review, several issues were identified and included in SCE's corrective action program. SCE will revisit each of these issues to ensure that the appropriate corrective actions for any circuits with parallel pathways have been implemented to resolve the GL 96-01 concerns.

**SAFETY SIGNIFICANCE:**

Because the RTCBs contain redundant trip devices (i.e., both a shunt trip coil and an undervoltage trip coil) and the successful completion of the TS SRs (which verified operability of both trip coils), this issue has no safety significance.

**ADDITIONAL INFORMATION:**

On December 11, 1997, SCE submitted LER 2-1997-015 regarding inadequate surveillance testing of charging pump relay contacts. As part of the investigation of that event, SCE identified the need to conduct a new independent evaluation of the GL 96-01 review. Both the initial review and the independent review failed to recognize that the testing method for verifying the RPS logic relay (K-relay) and the manual trip button contact did not ensure compliance with the TS SR. This failure to identify was caused by the complexity of the circuits and cognitive personnel errors. This may have contributed to the failure to correct this issue at that time.

In the last three years, SCE has not submitted any LERs regarding GL 96-01.

San Onofre Nuclear Generating Station (SONGS) Unit 2

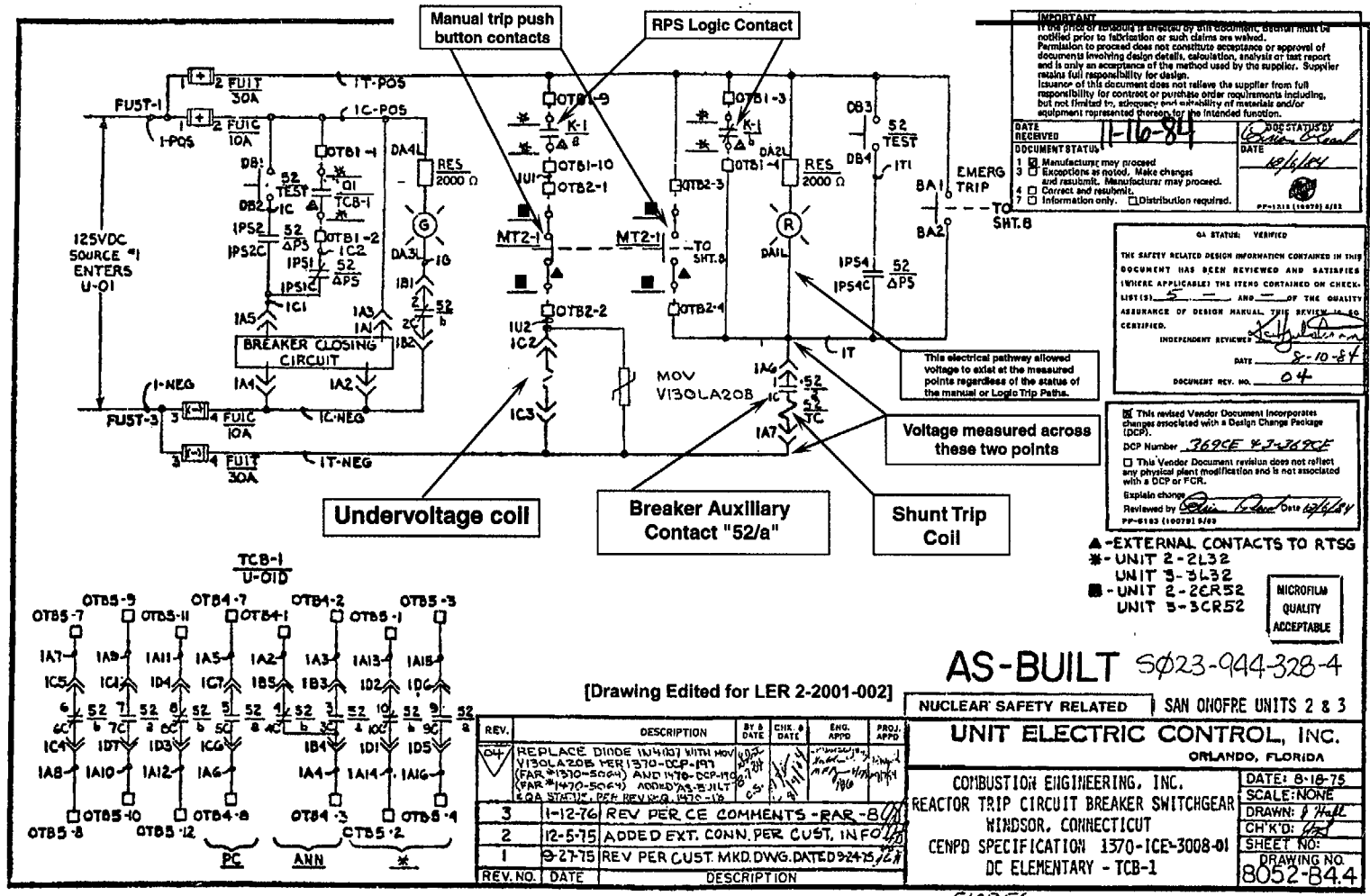
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YEAR 2001  
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Figure 1



**IMPORTANT**  
If the price for materials is affected by this document, approval must be notified prior to fabrication or such claims are waived.  
Permission to proceed does not constitute acceptance or approval of documents involving design details, calculation, analysis or test report and is only an acceptance of the method used by the supplier. Supplier retains full responsibility for design.  
Issuance of this document does not relieve the supplier from full responsibility for correct or purchase order requirements including, but not limited to, adequacy and availability of materials and/or equipment represented thereon for the intended function.

DATE RECEIVED: 1-16-84  
DATE: 10/1/84  
DOC STATUS: Design Original  
DATE: 10/1/84

1  Manufacture may proceed  
2  Exemptions as noted. Make changes and resubmit. Manufacturer may proceed.  
3  Correct and resubmit.  
4  Information only.  Distribution required.

QA STATUS: VERIFIED  
THE SAFETY RELATED DESIGN INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN REVIEWED AND SATISFIES (WHERE APPLICABLE) THE ITEMS CONTAINED ON CHECKLIST(S) 5 AND 6 OF THE QUALITY ASSURANCE OF DESIGN MANUAL, THIS REVIEW IS AS CERTIFIED.  
INDEPENDENT REVIEWER: [Signature]  
DATE: 8-10-84  
DOCUMENT REV. NO.: 04

This revised Vendor Document incorporates changes associated with a Design Change Package (DCP).  
DCP Number: 369CE 43-369CE  
 This Vendor Document revision does not reflect any physical plant modification and is not associated with a DCP or PDR.  
Explain change:  
Reviewed by: [Signature] DATE: 10/1/84  
PP-6103 (10078) 8/83

- ▲ - EXTERNAL CONTACTS TO RTSG
  - \* - UNIT 2-2L32
  - - UNIT 2-2CR52
  - - UNIT 3-3L32
  - - UNIT 3-3CR52
- MICROFILM QUALITY ACCEPTABLE

AS-BUILT SØ23-944-328-4

NUCLEAR SAFETY RELATED | SAN ONOFRE UNITS 2 & 3

UNIT ELECTRIC CONTROL, INC.  
ORLANDO, FLORIDA

COMBUSTION ENGINEERING, INC.  
WINDSOR, CONNECTICUT  
CENPD SPECIFICATION 1370-ICE-3008-01  
DC ELEMENTARY - TCB-1

DATE: 8-10-75  
SCALE: NONE  
DRAWN: J. H. H.  
CH'KD: [Signature]  
SHEET NO.:  
DRAWING NO.: 8052-84.4

[Drawing Edited for LER 2-2001-002]

REV.	DESCRIPTION	BY & DATE	CHK. & DATE	ENG. APPD.	PROJ. APPD.
1	REPLACE DIODE IN 4107 WITH MOV V130LA20B PER 1370-DCP-197 (PAR 1370-5064) AND 1370-DCP-198 (PAR 1370-5064) - ADDS 275 RESULT EQA STATE REF. REV. 9. 1975-18.	[Signature]	[Signature]	[Signature]	[Signature]
2	1-12-76 REV PER CE COMMENTS - BAR-B	[Signature]	[Signature]	[Signature]	[Signature]
3	12-5-75 ADDED EXT. CONN. PER CUST. INFO	[Signature]	[Signature]	[Signature]	[Signature]
4	3-27-75 REV PER CUST. MKD. DWG. DATED 9-24-75	[Signature]	[Signature]	[Signature]	[Signature]

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