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R. W. Krieger
Vice President
Nuclear Generation

June 29, 1998

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

Subject: Docket Nos. 50-361 and 50-362
Revised 30-Day Reports
Licensee Event Report Nos. 1996-012-01 and 2-1998-009-01
San Onofre Nuclear Generating Station, Units 2 and 3

This letter provides revisions to two Licensee Event Report (2-1996-012 and 2-1998-009) for one condensate storage tank being outside its design basis. Because this condition involves similar systems, causes, corrective actions, and is equally applicable to both Units 2 and 3, a single report for Unit 2 is being submitted in accordance with NUREG-1022, Rev 1. This report was delayed beyond our estimated submittal date of June 22 in order to ensure an accurate response.

Neither the health nor the safety of plant personnel or the public was affected by this occurrence.

If your require any additional information, please so advise.

Sincerely,

Enclosure: LER No. 1996-012-01 and 2-1998-009-01

cc: E. W. Merschoff, Regional Administrator, NRC Region IV
K. E. Perkins, Jr., Director, Walnut Creek Field Office, NRC Region IV
J. A. Sloan, NRC Senior Resident Inspector, San Onofre Units 2 & 3
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San Onofre Nuclear Generating Station
Units 2, and 3

LER No. 1996-012.01
1998-009.01

bcc:

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G. T. Gibson
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NRC FORM 366 (MMM-YYYY) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	Docket Number (2)	Page (3)
San Onofre Nuclear Generating Station (SONGS) Unit 2 & 3	05000-361	1 of 7

TITLE (4): Condensate Storage Tank Outside Design Basis

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	26	1996	1996	-- 012 --	01	06	29	1998	Unit 3	05000-362
									FACILITY NAME	DOCKET NUMBER

		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check One or More) (11)			
OPERATING MODE	1	20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)
POWER LEVEL (10)	100	20.2203(a)(1)	20.2203(a)(3)(i)	X 50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)	50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
R.W. Krieger, Vice President, Nuclear Generation	714-368-6255

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)	MONTH	DAY	YEAR
Yes (If yes, complete EXPECTED SUBMISSION DATE)	X	No				

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

On 5/29/98, SCE submitted an interim LER as required by 10CFR50.73(a)(2)(ii). This LER provides the follow-up revision to the initial report.

On 2/26/96, SCE completed a preliminary evaluation of potential losses from condensate storage tank T-120 which identified that the 280,000 gallon TS limit for T-120 and plant procedures were not adequate to ensure meeting the 200,000 gallon design bases requirement described in the UFSAR. On 4/29/98, SCE determined that, in retrospect, sufficient information was available in February 1996 to conclude this condition was reportable because reasonable assurance did not exist that 200,000 gallons would be available from T-120 after a DBE. SCE is reporting this now in accordance with 10CFR50.73(a)(2)(ii)(B) as a condition "that resulted in the nuclear power plant being... [i]n a condition that was outside the design basis of the plant" as described in the UFSAR.

In February 1996, SCE took actions to increase the minimum level in T-120 to 382,207 gallons. SCE also revised operating procedures and Abnormal Operating Instructions (See LER 2-1998-009, Rev. 1.). There was minimal safety significance to this occurrence.

Plant: San Onofre Nuclear Generating Station (SONGS) Unit 2 and 3
Reactor Vendor: Combustion Engineering
Event Date: February 26, 1996
Event Time: 11:08 PST
Mode: Unit 2 - Mode 1 - "Power Operation"
Unit 3 - Mode 1 - "Power Operation"
Power: Unit 2 - 99.8%
Unit 3 - 99.9%

Purpose:

On May 29, 1998, Southern California Edison (SCE) submitted an interim, abstract LER as required by 10CFR50.73(a)(2)(ii). This LER provides the follow-up revision to the initial report.

Background:

Condensate Storage Tank (CST) (KA) T-120 is a 500,000 gallon Seismic Category II tank. It is enclosed in a Seismic Category I concrete structure designed to retain a majority of the water from the tank should the tank fail during a seismic event. T-120 provides makeup to Seismic Category I CST T-121 via the condensate transfer pump (P), or gravity feed through a crosstie line. In the event of the failure of T-120, another crosstie line is provided from the T-120 enclosure to T-121. Figure 1 provides a diagram of the Condensate Storage and Transfer System.

T-120 is also a water supply or makeup source for the main condensers, and other secondary plant equipment. The portion of the lines that lead from T-120 to the secondary plant are supported to Seismic Category I criteria from the enclosure wall out to (and including) manual isolation valves (ISV) HV5715 and MU092. Piping downstream of these valves is non-seismic. HV5715 and MU092 are normally open. Prior to February 1996, neither the AOI, nor alarm response procedures (note: the T-120 low level alarm is non-seismic) instructed operators to close the isolation valves following a seismic event. Failure to close the valves could result in a loss of inventory from T-120.

Revision 0 (January 1984, submitted to the NRC February 10, 1984) of UFSAR section 9.2.6.1 "Design Bases" of the condensate storage and transfer system, included:

> "The condensate storage and transfer system provides water to the suction of the auxiliary feedwater pumps during normal startup and shutdown and during loss of offsite power conditions, as well as during loss of feedwater and steam line rupture. The Seismic Category I condensate storage tank T-121 has sufficient storage capacity to maintain a hot standby condition for 2 hours, and to provide enough water to remove decay heat and to cool down the reactor to the temperature at which the shutdown cooling system can be used to remove decay heat. An additional minimum 200,000 gallons available from the non-Seismic Category I condensate storage tank T-120 provides a total capability of

24 hours auxiliary feedwater pump operation."

"The Seismic Category I condensate storage tank T-121 will remain functional after the DBE. In addition, a minimum usable volume of 200,000 gallons from the Seismic Category II condensate storage tank T-120 will be available after the DBE."

Technical Specification (TS) 3.7.1.3 required 280,000 gallons in T-120 in Modes 1, 2, and 3. The minimum volume of 280,000 gallons is reserved in T-120 to insure a minimum reasonable volume of 200,000 gallons following a DBE.

The Bases for TS 3.7.1.3 (Unit 2, prior to Improved Technical Specifications, Amendment 127) stated, in part, that the 280,000 gallons of water in T-120, in conjunction with 144,000 gallons of water in T-121, "ensures that sufficient water is available to maintain the RCS [Reactor Coolant System] at HOT STANDBY conditions for 24 hours including cooldown to shutdown cooling initiation, with steam discharge to atmosphere with concurrent loss of offsite power and most limiting single failure."

In February 1995, SCE questioned whether the current licensing basis (a mechanistic approach) included certain potential events which might reduce the volume of water available in T-120 following a DBE, and whether the water volume should be increased to include these events; specifically, potential inventory losses due to the failure of non-Seismic Category I piping downstream of the tank's Seismic Category I isolation valves, and seismically induced spurious actuation of non-1E electrical equipment (valves an pumps). SCE initiated an evaluation to account for these losses.

Description of Event:

On February 26, 1996 (the event date), SCE completed a preliminary evaluation of T-120 losses which identified that the 280,000 gallon TS limit for T-120 and plant procedures were not adequate to ensure meeting the 200,000 gallon design bases requirement described in the UFSAR. On April 29, 1998 (the discovery date), SCE determined that, in retrospect, sufficient information was available in February 1996 to conclude this condition was reportable because, with the isolation valves open and no operator actions in place to close the isolation valves, reasonable assurance did not exist that 200,000 gallons would be available form T-120 after a DBE. See Additional Information section below. Consequently, SCE is reporting this now in accordance with 10CFR50.73(a)(2)(ii)(B) as a condition "that resulted in the nuclear power plant being...[i]n a condition that was outside the design basis of the plant" as described in the UFSAR.

Cause of the Event:

During the initial licensing process (circa. 1980), SCE did not consider potential effects on T-120 caused by interactions with the piping and electrical components downstream of the isolation valves. Once this was recognized, SCE identified several mechanisms for the loss of water volume from T-120. (See the discussion of ER 2-88-034 in the Additional Information section below.)

Corrective Actions:

In February 1996, SCE took actions to:

- Increase the minimum level in T-120 administratively to 86.2 percent level (382,207 gallons). This administrative level limit included an allowance for 30 minutes of diversion at the maximum estimated rate, plus level instrument total loop uncertainty (TLU). This ensured that operators had at least 30 minutes to isolate the diversion flows prior to reaching the TS required level.

- Revise operating procedures and Abnormal Operating Instructions (AOI). (See LER 2-1998-009, Rev. 1.) The revisions included:

  1. Requiring shiftly surveillance that the level in T-120 is above the new minimum level.

  2. Inspecting and, if necessary, closing the condenser makeup water valves, and to de-energize and isolate the condensate transfer pump within 30 minutes of a seismic event larger than Operating Bases Earthquake (OBE).

  3. Requiring closing one unit's Turbine Plant Cooling Water (TPCW) makeup isolation valve, or maintaining an Operator in attendance whenever the units' condensate makeup systems are crosstied.

SCE is continuing its evaluation of the current design and licensing bases for T-120. Upon completion, SCE will make changes in accordance with the appropriate regulatory requirements.

Safety Significance of the Event:

In the event of a DBE and loss of T-120, and without any additional failures, the water volume of Seismic Category I CST T-120 alone is sufficient to achieve shutdown cooling.

SCE performed an assessment of the impact of reduced condensate inventory following a seismic event on the time available for operators to successfully transition the unit from hot shutdown to Shutdown Cooling (SDC). The assessment considered operator actions to initiate RCS cooldown and SDC operation in a timely manner and the potential for component failures (e.g., Atmospheric Dump Valves, SDC pumps or valves which could not be repaired prior to core damage with reduced condensate inventory). No credit was given to the operator action for isolating the CST T-120 flow diversion by locally closing valves HV5715 and MU092. The conclusion was the potential increase in core damage risk was approximately 2E-6 per year.

Additional Information:

Previously Reported Similar Events

- LER 2-88-034 reported a similar condition for the CCW. The condition being reported herein was discovered as a result of the corrective actions described in LER 2- 88-034. Both events have a similar cause.

- LER 3-96-005 reported a condition where the Reactor Coolant System Gas Vent System (RCGVS) flow restricting orifice valve was left open following a refueling outage. With the valve open, it did not provide the flow restricting ability for the RCGVS reactor head vent line as discussed in UFSAR Section 9.3.7. The cause was a failure to close the valve as required by procedure, a cause not present in the condition being reported herein.

- LER 2-1998-005 reported a condition where several 120 VAC circuits were determined to not meet their voltage acceptance criteria due to incorrect assumptions in the analyses. As a result, it was determined that SONGS had previously operated in a condition in which some circuits may not have performed their intended design function under worst case electrical loading and voltage conditions. This condition did not comply with the design information provided in the UFSAR. The cause of this condition was not present in the condition being reported herein.

- LER 2-1998-008 reported a condition the feeder cables from the unit auxiliary transformers to the Class 1E 4160 VAC distribution buses for both Units 2 and 3 could exceed their maximum allowable conductor temperature when a given unit is in the backfeed alignment and that unit is supplying power to its shutdown loads and is also providing power to maximum post accident loads in the companion unit via the unit-to-unit 4160 VAC bus cross tie. These non-Class 1E cables are credited by the TS as one of the two sources of off-site power during backfeeding. This condition did not comply with the design information provided in the UFSAR for Class 1E cables. This condition existed due to an error in the feeder cable sizing calculation completed by the plant Architect/Engineer during original plant design (circa 1975), a cause not present in the condition being reported herein.

- LER 2-1998-009 reported CST T-120 was outside its design bases when the corrective action discussed herein (i.e., the proceduralized operator actions in the AOI to isolate the tank following an OBE) were inadvertently deleted while revising the AOI. The cause for that event was individual error; a cause not present for this event.

Reportability considerations:

Upon receipt and subsequent evaluation of the March 26, 1998, NRC letter to Nine Mile Point Unit 1 (NMP1) from Mr. Joe Callan, SCE recognized that the Callan letter constitutes a change to the accepted industry practice

of reporting conditions outside the design basis only when such changes affected the principal safety barriers or constituted a condition which was seriously degraded. SCE concluded the Callan letter instructs reporting as a condition outside the design bases items at the component level, rather than at the system level as established by the BWR Owners Group (circa 1988). SCE is continuing to evaluate the Callan letter (AR 980500696), will train appropriate personnel involved in reportability determinations in its application, and is participating in BWROG actions directed at achieving resolution of the NMP1 precedent.

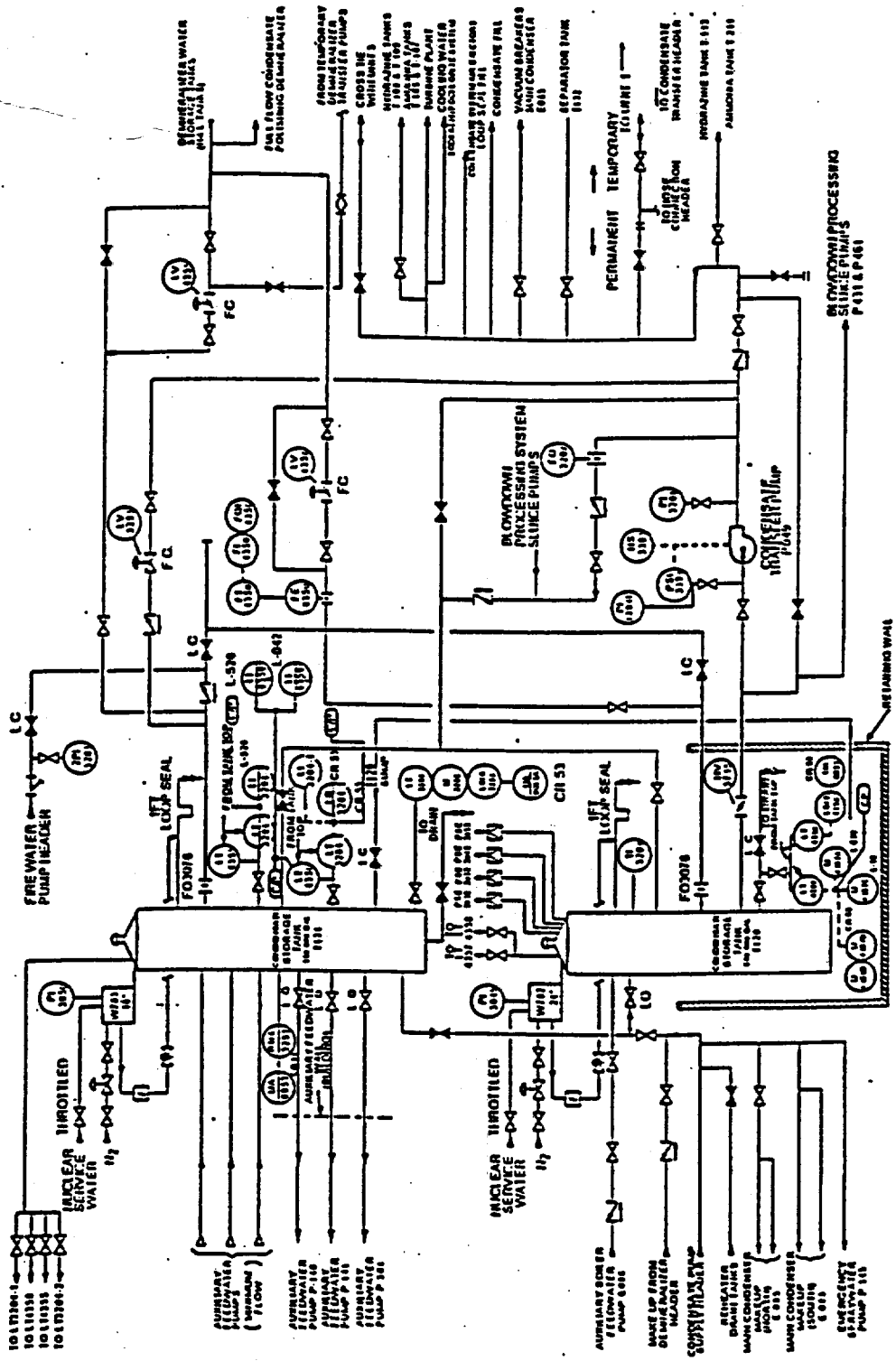
Applying Callan's letter to UFSAR "Design Basis" Section 9.2.6.1, SCE acknowledges that, in retrospect, there were prior opportunities (notwithstanding the BWROG prior industry position) to report this condition under 10CFR73.(a)(2)(ii) as follows:

- In February 1995, distribution of an internal memorandum which documented the condition and assigned actions was limited, and no reportability assessment was performed. In December 1995, SCE implemented its Action Request (AR) system. This system would have required an AR to be written to identify the condition and to assign actions, including consideration of a Reportability Assessment (RPT). The AR system has been effective since its inception, and is believed to have significantly reduced the potential for missed reportability assessments.

- In February 1996, (AR 980201089) an Operability Assessment (OA) performed at that time credited compensatory measures (increased volume and proceduralized operator actions) when concluding T-120 was "Operable." The tank should have been "Restricted Operable" (operable with compensatory measures). In March 1998, SCE made a significant enhancement to its OA process which, had it been in place in February 1996, would have likely resulted in an RPT.

- Although inquiries were made beginning on April 14, 1998, prior to the receipt of the Callan letter, SCE concluded that T-120 met the requirements of its initial design and licensing bases, based on a review of the initial licensing history. However, documentation is insufficient to conclusively establish the intent of the NRC initial licensing review and approval.

Figure 1 - Condensate Storage and Transfer System



NRC FORM 366 (MMM-YYYY) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	Docket Number (2)	Page (3)
San Onofre Nuclear Generating Station (SONGS) Unit 2	05000-361	1 of 1

TITLE (4): Condensate Storage Tank Outside Design Basis Due To Procedure 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 NAME	DOCKET NUMBER
04	29	1998	1998	-- 009 --	00	05	29	1998	SONGS Unit 3	05000-362
									FACILITY NAME	DOCKET NUMBER

		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check One or More) (11)							
OPERATING MODE (9)	1		20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)
POWER LEVEL (10)	100		20.2203(a)(1)		20.2203(a)(3)(i)	X	50.73(a)(2)(ii)		50.73(a)(2)(x)
			20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
			20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
R.W. Krieger, Vice President, Nuclear Generation	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)	MONTH	DAY	YEAR
X	Yes (If yes, complete EXPECTED SUBMISSION DATE)	No		6	22	1998

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

On 4/29/1998 (discovery date), an engineer reviewing the calculations of potential losses of water from a Condensate Storage Tank (CST) following a Design Bases Earthquake discovered that the compensatory operator actions in an Abnormal Operating Instruction (AOI) to isolate the tank following an operating bases earthquake had been inadvertently deleted. In accordance with 10CFR50.72(b)(1)(ii), Southern California Edison (SCE) made a 1-hour telephone notification to the NRC Operations Center (Log No. 34150) at 1429 PDT on 4/29/1998 for a condition outside the design bases of the plant. SCE will provide the follow-up written report required by 10CFR50.73(a)(2)(ii) by 6/22/1998.

The cause of the procedure error was an individual error. The person making a revision to the AOI used an obsolete electronic file to make the changes.

The steps which had been inadvertently deleted from the AOI were immediately replaced.

SCE's assessment of the safety significance was the potential increase in core damage risk was very small.

NRC FORM 366 (MMM-YYYY) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	Docket Number (2)	Page (3)
San Onofre Nuclear Generating Station (SONGS) Unit 2 & 3	05000-361	1 of 3

TITLE (4): Condensate Storage Tank Outside Design Basis Due to Procedure 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 NAME	DOCKET NUMBER
04	28	1998	1998	-- 009 --	01	06	29	1998	Unit 3	05000-362
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check One or More) (11)			
POWER LEVEL (10)	100	20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)
		20.2203(a)(1)	20.2203(a)(3)(i)	X 50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)	50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
R.W. Krieger, Vice President, Nuclear Generation	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)	MONTH	DAY	YEAR
Yes (If yes, complete EXPECTED SUBMISSION DATE)	X	No				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-spaced

On 4/28/98, an engineer reviewing the calculations of potential losses of water from T-120 discovered that the steps in the AOI to isolate the tank following an operating bases earthquake had been inadvertently deleted in August 1996. While the administrative procedure to maintain the level in T-120 greater than 382,207 gallons remained in place, operator action following a DBE would have been required to assure maintaining T-120's design bases water volume of 200,000 gallons. In accordance with 10CFR50.72(b)(1)(ii), SCE made a 1-hour telephone notification to the NRC (Log No. 34150) at 1429 PDT on 4/29/98 to report that a procedure error had been discovered which placed Condensate Storage Tank T-120 outside its design bases. This submittal provides an updated report for the interim LER that was submitted on 5/29/98.

The steps which had been inadvertently deleted from the AOI were replaced on April 29, 1998. This event was reviewed with the individual involved. SCE will provide an additional barrier (independent verification or electronic warning) for TS surveillance procedures, integrated operating procedures, and AOIs to assure all revisions are being made to the current procedure electronic file.

Plant:	San Onofre Nuclear Generating Station Units 2 & 3
Reactor Vendor:	Combustion Engineering
Event Date:	April 29, 1998
Event Time:	1325 PDT
Mode:	Unit 2 - Mode 1 - "Power Operation" Unit 3 - Mode 1 - "Power Operation"
Power:	Unit 2 -99.8 % Unit 3 -99.9%

Background:

In accordance with 10CFR50.72(b)(1)(ii), Southern California Edison (SCE) made a 1-hour telephone notification to the NRC Operations Center (Log No. 34150) at 1429 PDT on April 29, 1998. The purpose of that notification was to report that a procedure error had been discovered which placed Condensate Storage Tank (CST)(KA) T-120 outside its design bases. On May 29, 1998, SCE submitted an interim, abstract LER as required by 10CFR50.73(a)(2)(ii). This LER provides the follow-up written report.

Description of Event:

On April 28, 1998 (discovery date), an engineer reviewing the calculations of potential losses of water from T-120 discovered that the steps in the AOI to isolate the tank following an operating bases earthquake had been inadvertently deleted in August 1996. While the administrative procedure to maintain the level in T-120 greater than 382,207 gallons remained in place, operator action following a DBE would have been required to assure maintaining T-120's design bases water volume of 200,000 gallons. (See LER 2-1996-012-01)

Cause of the Event:

An individual error caused the procedure steps to be inadvertently deleted from the AOI. The person making a revision to the AOI in August 1996 used an obsolete electronic file to make the changes. The obsolete file was an earlier revision of the AOI from before February 1996 which did not contain the required steps to isolate the tank.

Corrective Actions:

- The steps which had been inadvertently deleted from the AOI were replaced on April 29, 1998.
- This event was reviewed with the individual involved.

- SCE will provide an additional barrier (independent verification or electronic warning) for TS surveillance procedures, integrated operating procedures, and AOIs to assure all revisions are being made to the current procedure electronic file.

Safety Significance of the Event:

In the event of a DBE and loss of T-120, and without any additional failures, the water volume of Seismic Category I CST T-121 alone would be sufficient to achieve shutdown cooling.

SCE performed an assessment of the impact of reduced condensate inventory following a seismic event on the time available for operators to successfully transition the unit from hot shutdown to Shutdown Cooling (SDC). The assessment considered operator actions to initiate RCS cooldown and SDC operation in a timely manner and the potential for component failures (e.g., Atmospheric Dump Valves, SDC pumps or valves) which could not be repaired prior to core damage with reduced condensate inventory). No credit was given to the operator action for isolating the CST T-120 flow diversion by locally closing valves HV5715 and MU092. The conclusion was the potential increase in core damage risk was approximately 2E-6 per year.

Additional Information:

On June 29, 1998, SCE reported in LER 2-1996-012, Rev. 1, that, prior to February 1996, that TS 3.7.1.3 for T-120 water inventory (which required a minimum of 280,000 gallons of water in the tank) and plant procedures (which did not provide for operator actions to isolate the tank following a DBE) were not adequate to ensure meeting the design bases of T-120 as described in the UFSAR. As a corrective action for that condition, SCE administratively increased the water volume in the tank to over 382,207 gallons, and added the procedural guidance which is being reported herein as having been inadvertently deleted.

In the last three years, SCE has not reported a condition where a procedure error has caused a system to be outside its design bases. However, LER 3-96-005 reported a condition where the Reactor Coolant System Gas Vent System (RCGVS) flow restricting orifice valve was left open following a refueling outage. With the valve open, it did not provide the flow restricting ability for the RCGVS reactor head vent line as discussed in the UFSAR. The cause was a failure to close the valve as required by procedure, a cause not present in the condition being reported herein.

ENCLOSURE 5

May 6, 1998 Probabilistic Risk Assessment Report for LER 2-96-012