

January 22, 2001

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

Subject: **Docket No. 50-361**  
**30-Day Report**  
**Licensee Event Report No. 2000-016**  
**San Onofre Nuclear Generating Station, Unit 2**

Gentlemen:

This submittal provides a 30-day Licensee Event Report (LER) in accordance with 10CFR50.73(a)(2)(iv) describing the manual initiation of the containment emergency cooling system, an Engineered Safety Feature (ESF). Neither the health nor the safety of plant personnel or the public was affected by this occurrence.

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 so advise.

Sincerely,



LER No. 2000-016

cc: E. W. Merschoff, Regional Administrator, NRC Region IV  
J. A. Sloan, NRC Senior Resident Inspector, San Onofre Units 2 & 3

NRC FORM 366 (MM-YYYY)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104      EXPIRES MM/DD/YYYY 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>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)**  
**Manual Start of a Containment Emergency Cooler, ESF Actuation**

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
12	31	2000	2000	- 016 -	00	01	22	2001	FACILITY NAME	DOCKET NUMBER
									FACILITY NAME	DOCKET NUMBER

<b>OPERATING MODE (9)</b>	1	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)</b>									
<b>POWER LEVEL (10)</b>	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)	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)	<input checked="" type="checkbox"/> 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)**

<b>NAME</b> R. W. Krieger, Vice President, Nuclear Operations	<b>TELEPHONE NUMBER (Include Area Code)</b> 949-368-6255
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**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

<b>SUPPLEMENTAL REPORT EXPECTED (14)</b>				<b>EXPECTED SUBMISSION DATE (15)</b>		
<input type="checkbox"/> YES	(If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> X	<input type="checkbox"/> NO			

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

On December 31, 2000, at about 0130 PST, non-1E containment normal chiller (2ME201) shutdown on high chilled water temperature. Plant operators stopped 2ME201 and began preparations to start the other containment normal chiller (2ME202). During this time, operators were concerned that an increase in containment pressure and temperature could accelerate Reactor Coolant Pump seal degradation. In response to this concern, operators decided to place the ECU's in service until a normal containment chiller was returned to service.

On December 31, 2000, at 0333 PST, Southern California Edison (SCE) made a 4-hour telephone notification to the NRC Operations Center (Log No. 37641) in accordance with 10CFR50.72(b)(2)(ii) for a manual actuation of an Engineered Safety Feature (ESF) component, even though the ECUs were not performing an ESF function during this event. SCE is providing this 30-day follow-up report in accordance with 10CFR50.73(a)(2)(iv).

A drift in the low chilled water temperature switch setpoint caused the shutdown of normal containment cooler 2ME201. 2ME202 was placed in service at 0220 on December 31, 2000 and provided cooling to containment normal coolers. The temperature switch for 2ME201 was re-calibrated, and 2ME201 was returned to service on January 1, 2001.

This event had no safety significance.

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Plant: San Onofre Nuclear Generating Station, Unit 2  
 Reactor Vendor: Combustion Engineering  
 Event Date: December 31, 2000  
 Mode: 1 - power operation  
 Power: 100 percent

**Background:**

The containment normal HVAC systems [VA] (non-safety related, non-1E powered) are designed to maintain a containment ambient air temperature below 120 degrees Fahrenheit during normal plant operation.[SSC1] The Containment Normal Cooling Units consist of five 25 percent air handling units and two 100 percent capacity chillers. Typically, four of the five containment normal cooling units operate continuously during normal power generation. The cooling units are manually operated from the control room, as containment temperature conditions require.[SSC2]

The Containment Emergency Cooling System (ECU) [BK] is an Engineered Safety Feature (ESF) system. It is designed to ensure, in conjunction with the Containment Spray System [BE], that the heat removal capability required during the post accident period can be attained.[SSC3] The Updated Final Safety Analysis Report (UFSAR) indicates that the ECU should be used as required to maintain containment temperature less than or equal to 120 degrees Fahrenheit and containment pressure less than or equal to 1.5 pounds per square inch gauge.[SSC4]

The four containment dome air circulators [BB], an ESF system, reduce the potential for breach of containment due to a hydrogen oxygen reaction by providing a uniformly mixed post accident containment atmosphere. [SSC5]The dome air circulating units start automatically upon receipt of a containment cooling actuation signal (CCAS). The units can be manually operated from the control room.[SSC6]

During normal operation, the Component Cooling Water System (CCW) [CC] provides cooling for various nonessential components, such as:[SSC7]

- The Control Element Drive Mechanism (CEDM) [AA] Cooling System.[SSC8]
- Reactor Coolant [AB] Pump (RCP) [P] seals.[SSC9]

The CCW also provides a heat sink for the removal of process and operating heat from safety related components, such as the ECU, during a Design Basis Accident (DBA) or transient.

**Description of the Event:**

On December 31, 2000, at about 0130 PST (event date), non-1E containment normal chiller (2ME201) shutdown on high chilled water temperature (AR001201394). Plant operators (utility, licensed) stopped 2ME201 and began preparations to start the other containment normal chiller (2ME202). As expected, the Containment Chiller process protection alarm was received subsequent to stopping 2ME201.

During this time, operators were concerned that an increase in containment pressure and temperature could accelerate Reactor Coolant Pump seal degradation. In response to this concern, operators decided to place the ECU's in service until a normal containment chiller was returned to service.

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On December 31, 2000, at 0333 PST, Southern California Edison (SCE) made a 4-hour telephone notification to the NRC Operations Center (Log No. 37641) in accordance with 10CFR50.72(b)(2)(ii) for a manual actuation of an Engineered Safety Feature (ESF) component, even though the ECUs were not performing an ESF function during this event. SCE is providing this 30-day follow-up report in accordance with 10CFR50.73(a)(2)(iv).

**Cause of the Event:**

A drift in the low chilled water temperature switch setpoint caused the shutdown of normal containment cooler 2ME201.

**Corrective Actions:**

- 2ME202 was placed in service at 0220 PST on December 31, 2000 and provided cooling to containment normal coolers.
- The temperature switch for 2ME201 was re-calibrated, and 2ME201 was returned to service on January 1, 2001.

**Safety Significance:**

This event had no safety significance.

- UFSAR Section 7.4 states that the ECU should be used as required to maintain containment temperature less than or equal to 120 degrees Fahrenheit and containment pressure less than or equal to 1.5 pounds per square inch gauge consistent with the initial plant conditions assumed in the UFSAR Chapter 15 accident analyses. For this event, the ECU was placed in service to perform that function, not its ESF function.
- Normal containment chiller 2ME202 was placed into service before the cooling capacity of the ECUs would have been required to maintain containment temperature and pressure below the values assumed in the accident analyses. Hence, the use of the ECU is considered precautionary.
- This event was not caused by nor did it result in a Safety System Functional Failure (SSFF). This event did not impact the ability to shut down the Unit or mitigate the consequences of an accident. SCE concludes that there was no increase in calculated Core Damage Frequency or Large Early Release Frequency. This occurrence is categorized "Green" using the latest draft of the Reactor Safety Significance Determination Process (SDP).

**Additional Information:**

In the past 3 years, SCE has reported the following ESF actuations:

1. LER 2000-011, Manual Start of a Containment Emergency Cooler, reported that 2ME201 tripped on low oil pressure. This event involved different systems and causes than the event reported herein. Therefore, the corrective actions should not have prevented the event reported herein.

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2. LER 2000-008, Radiography Causes Control Room Isolation (CRIS) Actuation, reported an event when the control room automatically isolated in response to radiation from a radiographer's source. This event involved different systems and causes than the event reported herein. Therefore, the corrective actions should not have prevented the event reported herein.
  
3. LER 1999-004, Automatic Toxic Gas Isolation (TGIS) Actuation, reported an event when the control room automatically isolated in response to a small freon release from a hose being used for maintenance. This event involved different systems and causes than the event reported herein. Therefore, the corrective actions should not have prevented the event reported herein.
  
4. LER 1999-001, Automatic Start of an Emergency Diesel Generator, reported an event when an Emergency Diesel Generator started in response to a loss of power on an emergency bus. The loss of power was caused by the inadvertent operation of a breaker during plant maintenance. This event involved different systems and causes than the event reported herein. Therefore, the corrective actions should not have prevented the event reported herein.
  
5. LER 1998-017, Manual Toxic Gas Isolation (TGIS) Actuation, reported an event when operators, as a precautionary action, manually isolated the control room in response to a faint chlorine odor. This event, while involving different systems and causes than the event reported herein, is similar because it involved a precautionary manual actuation in response to actual plant conditions. The corrective actions should not have prevented the event reported herein.