

**Dr. Raymond W. Waldo** Vice President - Nuclear San Onofre

November 27, 2007

U.S. Nuclear Regulatory Commission Document Control Desk Washington, D.C. 20555-0001

# Subject: Docket Nos. 50-361 and 50-362 Licensee Event Report No. 2007-003 San Onofre Nuclear Generating Station, Units 2 and 3

Dear Sir or Madam:

This submittal provides Licensee Event Report (LER) 2007-003, which reports the incorrect performance of Surveillance Requirement (SR) 3.7.8.3 on Saltwater Cooling pumps. This event did not affect the health and safety of either plant personnel or the public.

If you require any additional information, please contact me.

Sincerely,

Tom Yackle for

Units 2 and 3 LER No. 2007-003

cc: E. E. Collins, Jr., NRC Regional Administrator, Region IV C. C. Osterholtz, NRC Senior Resident Inspector, San Onofre Units 2 & 3

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NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION (9-2007)						N A	APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2010									
LICENSEE EVENT REPORT (LER) (See reverse for required number of digits/characters for each block)								Es Re co Nu inf 10 im	Estimated burden per response to comply with this mandatory information collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy service Branch (T-5F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollect@mrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB- 10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a persona is not required to respond to the information collection.							
1. FACILITY NAME							2.	2. DOCKET NUMBER				3.	3. PAGE			
San Onofre Nuclear Generating Station (SONGS) Unit 2								05000361				1 OF 4				
4. TITLE Saltwater cooling system Surveillance performed incorrectly due to improper flowmeter calibration by M&TE																
5. E	VENT DATE			6.	LER NUMBER		7. RE	PORT	T DATE 8. OTHER FACILITIES INVOLVED					5		
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9. OPER	ATING	1		11. THIS REPOR		RT IS SUBM	T IS SUBMITTED PURSUA		IT TO	T TO THE REQUIREMENTS OF			10 CFR ': (Check all that apply)			
MOI	DE	<u> </u>		20.2201(b)		20.2203(	20.2203(a)(3)(ii)			50.73(a)(2)(ii)(B)			50.73(a)(2)(ix)(A)			
10. POWER		90		20.2201(d)		20.2203(a)(4)			50.73(a)(2)(iii)			50.73(a)(2)(x)				
LEV	LEVEL			20.2203(a)(1) 50.3		50.36(c)(	50.36(c)(1)(i)(A)			50.73(a)(2)(iv)(A)			73.71(a)(4)			
				20.2	2203(a)(2)(i)		50.36(c)(	1)(ii)(A	.)		50.73(a)(2)	(v)(A)		73.71(a)(5)		
				20.2	203(a)(2)(ii)		50.36(c)(	2)			50.73(a)(2)(v)(B)			OTHER		
				20.2	0.2203(a)(2)(iii)		50.46(a)(	3)(ii)	i)		50.73(a)(2)(v)(C)		Specify in Abstract below or in NRC Form 366A			
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NAME									TELEPHONE NUMBER (Include Area Code)							
Ray Waldo, VP Operations, Nuclear Generation							949-368-8725									
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Technical Specification (TS) Surveillance Requirement (SR) 3.7.8.3, Salt Water Cooling System, requires inservice testing (IST) for each SWC pump in the flow path servicing safety related equipment. On October 2, 2007 (discovery date), SCE determined the installed SWC flowmeters had not been properly calibrated using the portable M&TE and that TS SR 3.7.8.3 had not been properly performed. Therefore, SCE is reporting this occurrence in accordance with 10CFR50.73(a)(2)(i)(B).

SCE determined that the installed flowmeters were incorrectly adjusted due to errors in the set-up of the M&TE portable flowmeters. The work plan for performing the annual calibration of the installed flowmeters was not sufficiently detailed, relying on the skill of the individual technician. Also, plant personnel did not have adequate knowledge of the set-up and use of the M&TE portable flowmeters that are used to calibrate the installed flowmeters used in ISTs.

TS SR 3.7.8.3 has been completed for all eight SWC pumps with satisfactory results. SCE is reviewing the site training on the use of the M&TE portable flowmeters and will enhance training where appropriate.

Because the operability of the SWC system was unaffected by this occurrence, there was no safety significance to this event.

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1. FACILITY NAME	2. DOCKET NUMBER		6. LER NUMBER		PAGE (3)
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San Onorre Nuclear Generating Station (SONGS) Unit 2	05000361	2007	003	00	2014

Plant:	San Onofre Nuclear Generating Station (SONGS) Unit 2
Event Date:	October 2, 2007
Reactor Vendor:	Combustion Engineering
Mode:	Mode 1 – Power Operation
Power:	99 percent

### A. BACKGROUND INFORMATION

San Onofre Units 2 and 3 are each provided with two trains of Saltwater Cooling [BS] (SWC). Each train includes two 100 percent capacity pumps (four pumps per unit) and is capable of providing 100% of the cooling design requirements for one unit. The Saltwater Cooling System is the ultimate heat sink for San Onofre Units 2 and 3.

Technical Specification (TS) Surveillance Requirement (SR) 3.7.8.3, Salt Water Cooling System, requires the performance of inservice testing (IST) for each SWC pump in the flow path servicing safety related equipment. The SONGS IST program implements, in part, the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants, listed in 10 CFR 50.55a. The SONGS IST program requires testing for pump operability quarterly. The IST flow rate is determined by an installed ultrasonic (UT) flowmeter (Controlotron, Model Number 1010DN1), calibrated annually. One installed flowmeter indicates the flow on each train and can measure the performance of both pumps separately.

Calibration of installed Controlotron UT equipment is performed using Measurement and Testing Equipment (M&TE), portable ultrasonic flowmeter (Panametrics, Model Number PT878). The M&TE flowmeter is calibrated on a yearly interval.

## **B. DESCRIPTION OF EVENT**

Between September 2006 and April 2007, the four (one per train on both Units 2 and 3) plant installed flowmeters were replaced due to obsolescence. At the time of installation of the new flowmeters, original manufacturer's settings were verified by M&TE portable flowmeters. No adjustment to the plant installed flowmeters was required. During subsequent recalibrations, three of the four installed flowmeters were adjusted to match indications on the portable M&TE flowmeter.

Following the recalibrations, indicated SWC pump flows were inconsistent with expectations. Evaluating the results, SCE reviewed the calibration history of the installed flowmeters and the portable M&TE flowmeters and questioned the adequacy of the M&TE used for the calibrations.

On October 2, 2007 (discovery date), SCE determined the installed SWC flowmeters had not been properly calibrated using the portable M&TE and that TS SR 3.7.8.3 had not been properly performed. Therefore, SCE is reporting this occurrence in accordance with 10CFR50.73(a)(2)(i)(B).

Operability of the SWC system is a function of flow and temperature of the saltwater through the CCW heat exchanger. SCE restored the installed flowmeters to the manufacturer's (Controlotron) original setting. Afterwards, SWC flows were within the expected range. SCE determined that each pump was capable of delivering required flows according to ocean temperature. Therefore, all Saltwater Cooling Pumps were determined to be operable. The indicated flows were subsequently

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verified for accuracy by properly set-up M&TE before all ISTs were repeated.

In accordance with SR 3.0.3, SCE completed a risk evaluation that allowed a delay of 90 days to complete SR 3.7.8.3 for the SWC pumps.

## Cause of the Event:

SCE determined that the installed (Controlotron) flowmeters were incorrectly adjusted due to errors in the set-up of the M&TE portable flowmeters. The procedure and Maintenance Order (MO) work plan for performing the annual calibration of the installed flowmeters were not sufficiently detailed, relying on the skill of the individual technician. Also, plant personnel did not have adequate knowledge of the set-up and use of the M&TE portable flowmeters that are used to calibrate the installed flowmeters used in ISTs.

SCE had not correctly assessed the complexity of using the M&TE and the skill required for its operation. Therefore, procedures and training were insufficient to ensure correct and consistent results.

## Corrective Actions:

SCE has completed the following interim corrective actions:

- 1) The installed Controlotron flowmeters have been reset to the original manufacturer's setting and verified for accuracy by properly set-up M&TE.
- 2) Maintenance Orders for performing the calibration of the installed flowmeters included proper settings for the M&TE, as determined by Engineering.
- 3) Inservice Tests have been completed on all SWC pumps satisfying TS SR 3.7.8.3 for both units.

SCE will perform the following corrective actions:

- 4) Repetitive Maintenance Orders (RMO) will include adequate detail to perform the calibration properly and consistently.
- 5) SCE is reviewing the site training on the use of the Panametrics flowmeters and will enhance training where appropriate.
- 6) SCE is reviewing other complex M&TE to determine if there exists a similar lack of training and direction and will take additional action where appropriate.

SCE reviewed and comfirmed that the Panametrics flowmeter is not used for the completion of any other Technical Specification required Surveillances.

SCE may identify and implement additional corrective actions.

Safety Significance:

The SWC system's ability to remove decay heat in normal and accident conditions are based upon the temperature of the ultimate heat sink and saltwater flow through the tube side of the Component Cooling Water heat exchanger. SCE evaluated the conditions of the SWC system over the last three years and confirmed the SWC pumps were capable of performing their required safety function when required by plant conditions. Consequently, the SWC system was operable when

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required by TS and there is no safety significance for this event.

Previous Events:

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Over the last three years, there have been no events due to improper calibration by the M&TE program.