

February 2, 2001

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

**Subject: Docket No. 50-361 and 50-362
Voluntary 30-Day Report
Licensee Event Report No. 2000-014-01
San Onofre Nuclear Generating Station, Units 2 and 3**

Gentlemen:

This submittal provides Revision 1 of Licensee Event Report (LER) 2000-014. As originally submitted, this LER reported a Technical Specification (TS) violation caused by inadvertently omitting Safety Injection Tank (SIT) nitrogen supply check valves from the Inservice test (IST) program. Subsequent review of this issue concluded that while the IST was missed, it did not cause a TS to be violated because there is not an applicable TS Limiting Condition for Operation governing the SIT nitrogen supply check valves. Southern California Edison is revising this LER to reflect this information. 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. 2000-014-01

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

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Plant: San Onofre Nuclear Generation Station (SONGS) Units 2 and 3
Discovery Date: November 3, 2000

	<u>Unit 2</u>	<u>Unit 3</u>
Reactor Vendor:	Combustion Engineering	Combustion Engineering
Mode:	Mode 5 – Cold Shutdown	Mode 1 – Power Operation
Power:	N/A	99.88 percent

BACKGROUND:

San Onofre (SONGS) Units 2 and 3 each has four safety injection tanks (SIT). Each SIT is designed to inject water into the Reactor Coolant System (RCS) if a postulated accident were to cause the RCS to depressurize below the SIT pressure. The SITs are filled with water and pressurized with nitrogen gas from a common system header. The SIT tank pressure is maintained between 615 psia and 655 psia by Technical Specification (TS) Surveillance Requirement (SR) 3.5.1.3. Because a small break Loss Of Coolant Accident (LOCA) may not depressurize the RCS below the SIT discharge pressure for some period of time, the SITs must remain pressurized from the start of the event until they are needed. (Large LOCAs are not relevant to this criterion as the SIT discharge occurs nearly at the start of the event.) Because SIT pressure has an accident mitigation function, SIT pressurization has been assured by designing the SIT nitrogen supply system to ASME Section 3, Class 2 requirements, as specified by Regulatory Guide 1.26. 10CFR50.55(a) requires the boundary valves for this class of equipment be tested pursuant to the rules of the Code. The SIT nitrogen supply check valves are a Code boundary for the SITs.

Licensee Controlled Specification (LCS) 5.0.103.6 governs the SONGS IST program. That LCS states that the provisions of TS SR 3.0.3 are applicable to IST activities. TS SR 3.0.3 requires immediately declaring the applicable TS Limiting Condition for Operation (LCO) "not met" if an IST test is not performed within the allowable "delay period" (24 hours or the specified frequency, which ever is less).

DESCRIPTION OF THE EVENT:

On November 3, 2000 (discovery date), SCE determined that the SIT nitrogen supply check valves should have been included in the SONGS IST program but were not, and that the valves had not undergone periodic testing (AR00100900). This discovery was made when the Unit 2 SIT T-007 nitrogen supply valve (MU0196) was replaced during a scheduled refueling outage. The post maintenance testing requirements were questioned, and the omission of these valves from the IST program discovered.

The guidance provided in NUREG 1022, Rev. 1 states that "missed IST/ISI/ASME tests are reportable when the test interval plus any allowable extension plus the LCO action time has been exceeded." As originally submitted, this Licensee Event Report (LER) indicated the missed IST constituted a missed TS SR and was reportable to the NRC in accordance with 10CFR50.73(a)(2)(i). Subsequent review has concluded that while the IST was missed, it did not cause a TS to be violated because there is not an applicable TS LCO governing the SIT nitrogen supply check valves. As discussed above, TS 3.5.1 does impose operability requirements on the SITs, but does not include requirements for the nitrogen check valves.

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Consistent with the definitions provided in TS 1.1, a SIT may be considered operable if it is "capable of performing its specified safety function(s) and ... all necessary attendant ... auxiliary equipment ... required for the system ... to perform its specified safety function(s) are also capable of performing their related support function(s)."

On November 3, 2000, SCE documented an Operability Assessment (OA) for the nitrogen supply check valves that concluded the check valves in Unit 3 were capable of performing their specified safety function. Thus, all 4 Unit 3 SITs remained operable, and TS LCO 3.5.1 was met. Because the TS LCO was met, there was no TS violation and continued operation of Unit 3 to its next scheduled shutdown was allowed. While the foregoing discussion is also applicable to Unit 2 (i.e., no TS violation), Unit 2 was shutdown for refueling at the time of discovery and TS LCO 3.5.1 did not apply. An operability assessment was performed which demonstrated the Unit 2 valves were functional prior to shutdown for refueling. Nevertheless, SCE is voluntarily providing this LER.

CAUSE OF THE EVENT:

In 1992, the SCE reevaluated its IST program. Screening for inclusion in the IST program incorrectly excluded the SIT nitrogen fill check valves due to a misinterpretation of screening criteria that these valves functioned to mitigate the consequences of an accident. This appears to be an isolated case.

CORRECTIVE ACTIONS:

- The Unit 2 valves were tested satisfactorily on November 4, 2000.
- The valves were added to the SONGS IST program for future testing.
- The Unit 3 valves were tested satisfactorily under the IST program during the Unit 3 Cycle 11 refueling outage on January 2, 2001.

SAFETY SIGNIFICANCE:

The safety significance of this condition is minimal because:

- SITs must remain pressurized until needed, smaller LOCAs (which have longer RCS depressurization times) are the limiting condition for continued SIT pressurization. The largest break size LOCA for which the accident analysis does not credit SIT injection for mitigation is 0.05 square foot. (Note that while the 0.05 square foot break analysis does not credit SIT injection, this analysis determines the SITs would inject at 1630 seconds, if credited.)

The 0.05 square foot, and all other small break LOCA analyses, assumes a minimum SIT pressure of approximately 595 psia (including instrument uncertainty) at approximately 1630 seconds after event initiation. The minimum initial SIT pressure is 610 psia (TS minimum is 615 psia less 4.7 psi instrument uncertainty) at the start of the accident. Components connected to the SITs must not exhibit leakage under conditions and assumptions applying to small break LOCA of more than 15 psi in 1630 seconds (about 30 minutes) at operating SIT pressure.

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A review of plant data shows very little nitrogen leakage from the SITs. On November 2-3, 2000, Unit 3 (the operating unit) SIT leakage rates were no more than 0.2 psi/hr. Therefore, SIT nitrogen cover pressure would have remained above 595 psia 30 minutes after a small break LOCA. The Unit 3 SIT nitrogen fill check valves were tested successfully under the IST program during the scheduled refueling outage in January 2001.

- The Unit 2 valves were tested successfully on November 4, 2000. Testing was performed after MU0196 had been replaced; however, data collected prior to the shutdown (when MU0196 was leaking) indicate this valve would have performed its intended safety function.
- Even though the SIT nitrogen supply check valves had not been tested in accordance with the IST program, these valves were functional and therefore, would not have prevented the SITs from performing their intended safety function. Consequently, this occurrence is categorized "Green" using the latest draft of the Reactor Safety Significance Determination Process (SDP).

ADDITIONAL INFORMATION:

In the past three years, SCE has not reported any other events involving SIT or components being omitted from the IST Program.