Rev. 1

DESCRIPTION OF PROPOSED CHANGE NPF-10/15-155
AND SAFETY ANALYSIS

This is a request to add a new Technical Specification Section 3/4.4.10, REACTOR COOLANT GAS VENT SYSTEM.

Proposed Specification

Unit 2: See Attachment "A"
Unit 3: See Attachment "B"

Description

Generic Letter 83-37 dated November 1, 1983 required licensees to submit Technical Specifications (TS) for the reactor coolant system vents required by NUREG-0737, "Clarification of TMI Action Plan Requirements." Southern California Edison Company's (SCE) letter dated December 9, 1983 in response to Generic Letter 83-37, stated that SCE would submit proposed Technical Specifications for the Reactor Coolant Gas Vent System (RCGVS) by April 1, 1984. The RCGVS is described in FSAR Section 9.3.7 and illustrated in Attachment "C". The proposed Technical Specification is consistent with the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 RCGVS design and is necessarily different than the Standard Technical Specification (STS) provided with Generic Letter 83-37. The Standard Technical Specification appears to be intended for designs with single independent vent paths from the RCS vent points. It has several shortcomings when applied to designs with multiple interdependent paths such as SONGS 2 and 3. Specifically, the STS would allow one vent path to have a single valve open provided that another vent path from that vent point was operable with both valves closed. The proposed TS for SONGS 2 and 3 delineates the valves required to be operable and specifies the valves which must be closed to maintain the double isolaton intended by the STS.

The proposed ACTION statements also differ from the STS to be consistent with the SONGS 2 and 3 design. In addition the proposed actions are more flexible than the STS as follows:

1. The STS action allows 30 days of operation with a vent path inoperable. The proposed action allows until the next cold shutdown. This is justified considering the fact that the RCGVS is not required for plant cooldown or for the mitigation of any design bases accident. The RCGVS is designed such that the loss of coolant resulting from the inadvertent operation or failure of a single operable vent valve de-energized and closed in compliance with the action requirements would be within the capacity of the charging system and would only constitute RCS leakage in excess of the limits prescribed by Specification 3/4.4.5.1, RCS Leakage. Specification 3/4.4.5.1 delineates the actions to be taken when RCS leakage is greater than the allowed limits.

2. The STS does not have a 3.0.4 exception. Since most repairs of the RCGVS would require a cold shutdown, a cold shutdown would be necessitated after any trip while complying with the action before returning to MODE 1. The proposed change provides a 3.0.4 exception for entry into MODES 3, 2 and 1 to allow return to power operation following a trip, while in compliance with action requirements. As noted above, the RCGVS is not required for plant cooldown nor is it credited in the mitigation of any design bases accident. Additionally, the RCGVS is designed such that failure while complying with the action would constitute excess RCS leakage which is addressed by Specification 3/4.4.5.1. Because of this, a forced cold-shutdown following a trip while complying with the 3/4.4.11 action requirements is unnecessarily restrictive. Considering the lack of safety significance for the RCGVS and the existing provisions of the TS, the proposed 3.0.4 exception is justified.

Safety Analysis

The proposed change described above shall be deemed to involve a significant hazards consideration if there is a positive finding in any of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of any accident previously evaluated?

   Response: No

   The RCGVS was designed and installed to vent non-condensible gases and/or steam from the reactor coolant system (RCS) that could inhibit natural circulation core cooling following a non-design bases accident. The RCGVS is designed to not contribute to the occurrence nor is it credited with mitigating the consequences of any previously analyzed accident. Therefore, the proposed Technical Specifications for the RCGVS will not increase the probability or consequences of any previously analyzed accident.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

Failure or inadvertent operation of the RCGVS would resemble RCS leakage in excess of the allowable limits but within the capacity of the charging system. This event has been previously evaluated and Technical Specification 3/4.4.5.1 prescribes actions to be taken in the event of RCS leakage in excess of the allowable limits. Therefore, the proposed addition of Technical Specifications for the RCGVS does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

Response: No

As stated above, the proposed change does not affect the probability or consequences of any previously evaluated accident nor does it create the possibility of a new or different kind of accident. Therefore, no margin of safety is reduced.

48 FR 14864 provided examples of amendments not likely to involve a significant hazards consideration. The proposed change described above is most similar to example (ii) in that it institutes new requirements previously not embodied in the Technical Specifications.

Safety and Significant Hazards Determination

Based on the above Safety Analysis, it is concluded that: (1) the proposed change does not constitute a significant hazards consideration as defined by 10 CFR 50.92; and (2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and (3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

PWS:1112F:2842u

ATTACHMENT "A"

REACTOR COOLANT SYSTEM

REACTOR COOLANT GAS VENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.4.10 The Reactor Coolant Gas Vent System shall be OPERABLE with:

a. At least one of valves 2HV0296A or 2HV0296B capable of being powered from an emergency bus and providing a vent path from the reactor vessel head; and,

b. At least one of valves 2HV0297A or 2HV0297B capable of being powered from an emergency bus and providing a vent path from the pressurizer steam space; and,

c. At least one of valves 2HV0298, capable of being powered from an emergency bus and providing a vent path to the containment atmosphere, or 2HV0299, capable of being powered from an emergency bus and providing a vent path to the quench tank; and

d. Valves 2HV0296A, 2HV0296B, 2HV0297A, 2HV0297B, 2HV0299 and 2HV0298 all closed.

APPLICABILITY: MODES 1, 2, 3 and 4

ACTION:

a. With any of valves 2HV0296A, 2HV0296B, 2HV0297A or 2HV0297B inoperable, operation may continue provided that:

i) power is removed from the inoperable valve(s) within 4 hours; and,

ii) valves 2HV0299 and 2HV0298 are maintained closed and power is removed within 4 hours; and,

iii) the inoperable valve(s) is restored to OPERABLE status during the next COLD SHUTDOWN.

b. With any of valves 2HV0299 or 2HV0298 inoperable, operation may continue provided that:

i) power is removed from the inoperable valve(s) within 4 hours; and,

ii) valves 2HV0296A, 2HV0296B, 2HV0297A and 2HV0297B are all maintained closed and power is removed within 4 hours; and

LIMITING CONDITION FOR OPERATION

iii) the inoperable valve(s) is restored to OPERABLE status during the next COLD SHUTDOWN.

c. The provisions of 3.0.4 are not applicable for entry into MODES 3, 2 and 1.

SURVEILLANCE REQUIREMENTS

4.4.10 Each reactor coolant system vent path shall be demonstrated OPERABLE at least once per 18 months by:

1. Verifying all manual isolation valves in each vent path are locked in the open position.

2. Cycling each valve in the vent path through at least one complete cycle of full travel from the control room during COLD SHUTDOWN or REFUELING.

3. Verifying flow through the reactor coolant vent system vent paths during venting during COLD SHUTDOWN.

Add the following to the BASES section:

REACTOR COOLANT SYSTEM

BASES

3/4.4.10 REACTOR COOLANT GAS VENT SYSTEM

Reactor coolant system gas vents are provided to exhaust noncondensible gases from the primary system that could inhibit natural circulation core cooling following a non-design bases accident. The OPERABILITY of at least one reactor coolant system vent path from the reactor vessel head and the pressurizer steam space ensures the capability exists to perform this function.

The design redundancy of the Reactor Coolant Gas Vent System serves to minimize the probability of inadvertent or irreversible actuation while ensuring that a single failure of a vent valve, or control system does not prevent isolation of the vent path.

The function, capabilities, and testing requirements of the Reactor Coolant Gas Vent System are consistent with the requirements of Item II.b.1 of NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

PWS:1112F:2842u

ATTACHMENT "B"

REACTOR COOLANT SYSTEM

REACTOR COOLANT GAS VENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.4.10 The Reactor Coolant Gas Vent System shall be OPERABLE with:

a. At least one of valves 3HV0296A or 3HV0296B capable of being powered from an emergency bus and providing a vent path from the reactor vessel head; and,

b. At least one of valves 3HV0297A or 3HV0297B capable of being powered from an emergency bus and providing a vent path from the pressurizer steam space; and,

c. At least one of valves 3HV0298, capable of being powered from an emergency bus and providing a vent path to the containment atmosphere, or 3HV0299, capable of being powered from an emergency bus and providing a vent path to the quench tank; and

d. Valves 3HV0296A, 3HV0296B, 3HV0297A, 3HV0297B, 3HV0299 and 3HV0298 all closed.

APPLICABILITY: MODES 1, 2, 3 and 4

ACTION:

a. With any of valves 3HV0296A, 3HV0296B, 3HV0297A or 3HV0297B inoperable, operation may continue provided that:

i) power is removed from the inoperable valve(s) within 4 hours; and,

ii) valves 3HV0299 and 3HV0298 are maintained closed and power is removed within 4 hours; and,

iii) the inoperable valve(s) is restored to OPERABLE status during the next COLD SHUTDOWN.

b. With any of valves 3HV0299 or 3HV0298 inoperable, operation may continue provided that:

i) power is removed from the inoperable valve(s) within 4 hours; and,

ii) valves 3HV0296A, 3HV0296B, 3HV0297A and 3HV0297B are all maintained closed and power is removed within 4 hours; and

LIMITING CONDITION FOR OPERATION

iii) the inoperable valve(s) is restored to OPERABLE status during the next COLD SHUTDOWN.

c. The provisions of 3.0.4 are not applicable for entry into MODES 3, 2 and 1.

SURVEILLANCE REQUIREMENTS

4.4.10 Each reactor coolant system vent path shall be demonstrated OPERABLE at least once per 18 months by:

1. Verifying all manual isolation valves in each vent path are locked in the open position.

2. Cycling each valve in the vent path through at least one complete cycle of full travel from the control room during COLD SHUTDOWN or REFUELING.

3. Verifying flow through the reactor coolant vent system vent paths during venting during COLD SHUTDOWN.

Add the following to the BASES section:

REACTOR COOLANT SYSTEM

BASES

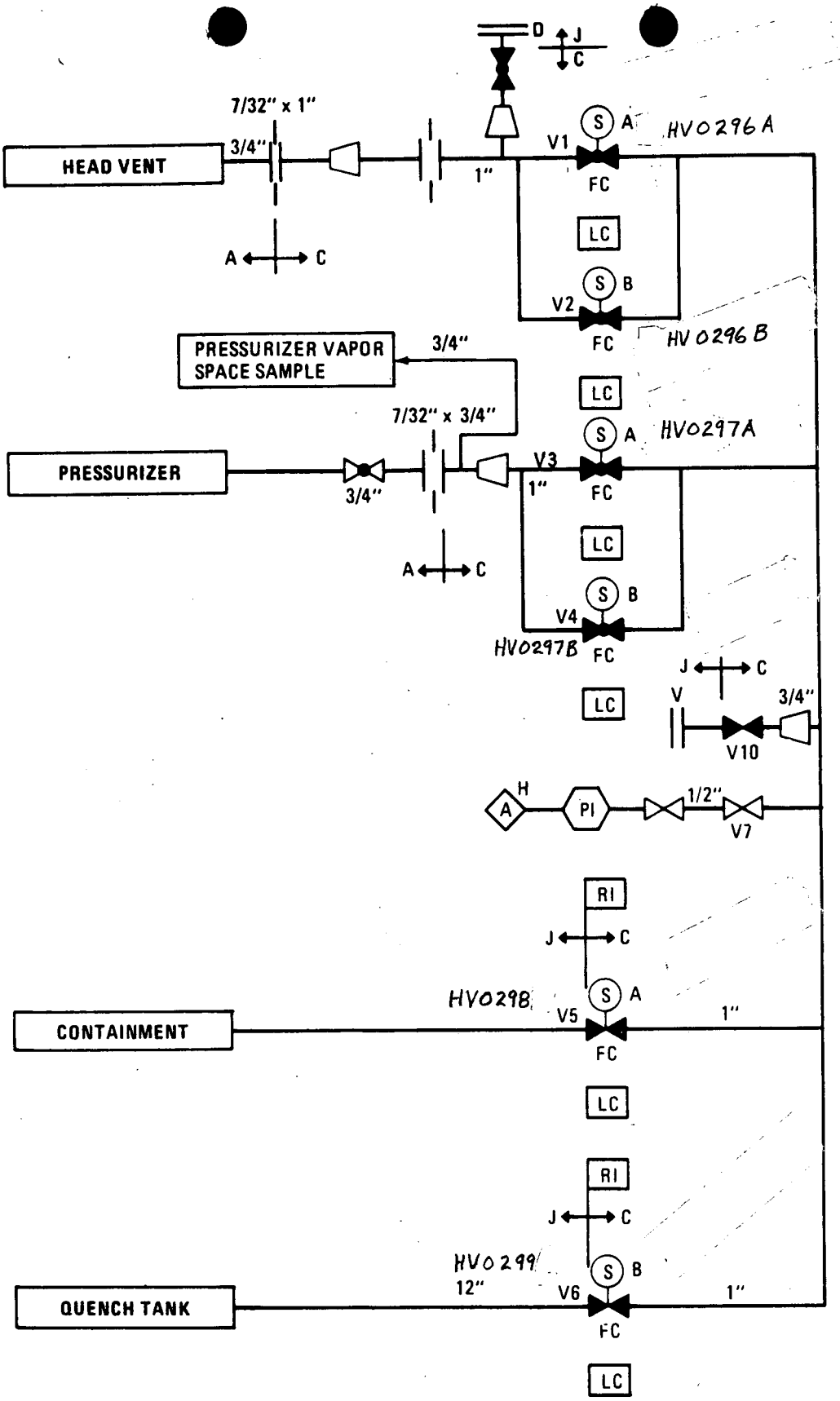
3/4.4.10 REACTOR COOLANT GAS VENT SYSTEM

Reactor coolant system gas vents are provided to exhaust noncondensible gases from the primary system that could inhibit natural circulation core cooling following a non-design bases accident. The OPERABILITY of at least one reactor coolant system vent path from the reactor vessel head and the pressurizer steam space ensures the capability exists to perform this function.

The design redundancy of the Reactor Coolant Gas Vent System serves to minimize the probability of inadvertent or irreversible actuation while ensuring that a single failure of a vent valve, or control system does not prevent isolation of the vent path.

The function, capabilities, and testing requirements of the Reactor Coolant Gas Vent System are consistent with the requirements of Item II.b.1 of NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

ATTACHMENT "C"



Updated

SAN ONOFRE NUCLEAR GENERATING STATION Units 2 & 3
REACTOR COOLANT GAS VENT SYSTEM SKETCH
Figure 9.3-15